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SAMUEL FORRY, M.D.

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⁂ For Prospectus see fourth page of the cover.

TO READERS, CORRESPONDENTS, ETC.

We would ask the attention of our readers to the new and improved typographical dress in which this number appears.

The scientific reader will not fail to appreciate our efforts in obtaining the extended and precise Meteorological Observations, which will continue to be a feature of this Journal. As soon as the press of our original matter will allow, we purpose devoting special attention to this fruitful theme.

Contributions have been received from Drs. Griscom, Bulkley, Witherspoon, and Morrell. We would repeat that no anonymous communication is admissible.

We have to acknowledge the receipt of the following works:

A Lecture on the Magnetism of the Human Body, delivered before the Apprentices' Library Society of Charleston. By Robert W. Gibbes, M.D., of Columbia, S. C.

Instructions and observations concerning the Use of Chlorides of Soda and Lime. By A. G. Labarraque, Pharmaceutist, of Paris, etc. Translated by Jacob Porter, Member of the American Antiquarian Society, etc. (From the Translator.)

Proceedings of the Medical Society of the State of Tennessee, at the fourteenth Annual Meeting, held at Nashville, May, 1843.

Medical Clinic: Diseases of the Chest. By G. Andral, Professor to the Faculty of Medicine of Paris, Member of the Royal Academy of Medicine, etc. Translated by D. Spillan, M.D. Philadelphia: Barrington & Haswell. 1843. (From the Publishers.)

The Anatomy, Physiology, Pathology, and Treatment of Cancer. By Walter Hayle Walshe, M.D., Professor, etc. With Additions by J. Mason Warren, M.D., etc. Boston: W. D. Ticknor & Co. 1843. (From the Annotator.)

Dental Visitor. By J. W. Smith, M.D., Northampton, Mass.

Principles of Medicine: comprising General Pathology and Therapeutics, and a brief general view of Etiology, Nosology, Semeiology, Diagnosis, and Prognosis. By Charles J. B. Williams, M.D., F.R.S., etc. With Additions and Notes by Meredith Clymer, M.D. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

Anatomical Atlas, illustrative of the Structure of the Human Body. By Henry H. Smith, M.D. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

Review of Dr. Caldwell's Pamphlet, entitled "Physiology Vindicated," in a Critique on Liebig's Animal Chemistry. By Robert Peter, M.D., etc. Cincinnati: 1843.

A Treatise on Dislocations and Fractures of the Joints. By Sir Astley Cooper, Bart., F.R.S., Sergeant Surgeon to the King, etc. Edited by Bransby B. Cooper, F.R.S. Philadelphia: Lea and Blanchard. 1844. (From the Publishers.)

On the Nature and Treatment of Stomach and Renal Diseases, etc. By Wm. Prout, M.D., F.R.S. Philadelphia: Lea & Blanchard. 1843. (From the Publishers.)

Practical Medicine: Illustrated by Cases of the most important Diseases. Edited by John M. Galt, M.D., Philadelphia: Ed. Barrington & Geo. Haswell. 1843. (From the Publishers.)

The Principles and Practice of Medicine. By John Elliotson, M.D., etc. With Notes and Additions by Thomas Stewardson, M.D. Philadelphia: Carey & Hart. 1844. (From the Publishers.)

A Practical Treatise on the Diseases of Children. By D. Francis Condie, M.D., etc. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

The American Journal of the Medical Sciences. (In exchange.)

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Paris, Professor of Midwifery, Member of the Society of Medical Emulation, etc. Accompanied with 216 wood-cuts. A work adopted by the Royal Council of Public Instruction. Translated from the French, and Edited by GUNNING S. BEDFORD, M.D., Professor of Midwifery and the Diseases of Women and Children in the University of New York. New York: Harper & Brothers. 1844. 8vo., pp. 552, 254

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ERRATA.

Page 184, line 5 from bottom, for *morbification* read *morbid action*.
" 203, " 24 " " for *simple* read *single*.
" 215, " 19 " top, substitute for the stars, the word *Like*.
The last two errors occur only in part of the edition.

TO READERS, CORRESPONDENTS, ETC.

We would claim the indulgence of such of our contributors, whose articles have been necessarily deferred; and we would also ask authors and publishers to look with forbearance upon similar delays as regards the notices of books. Even as it is, we have, in this number, encroached unwarrantably upon Part III.

Contributions have been received from Professor Caldwell, Dr. King, U. S. A., and Dr. George M. Maclean; and we would take this opportunity to add that the contributor in our last number, who published the same article simultaneously in another journal, exceeded, in our opinion, the bounds of propriety.

We have to acknowledge the receipt of the following works:

A Lecture Introductory to the Course of Obstetrics in Geneva Medical College, Session of 1843–4. By C. B. Coventry, M.D.

A Lecture Introductory to a Course on Chemistry, in the University of Pennsylvania. Delivered Nov. 7th, 1843. By Robert Hare. (From the Author.)

An Essay towards a correct Theory of the Nervous System. By John Harrison, M.D., Professor of Physiology and Pathology in the Medical College of Louisiana. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

Lectures on the Principles and Practice of Physic; delivered at King's College, London. By Thomas Watson, M.D. etc. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

Annual Report of the Surgeon-General to the Secretary of War. October 31, 1843. (From the Surgeon-General.)

Principles of Medicine, etc. By C. J. B. Williams, M.D., F.R.S., etc. With numerous additional notes, explanatory and critical, by John Bell, M.D., etc. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1844. (From the Publishers.)

Report of the Trustees of the Maine Insane Hospital. Nov. 30, 1843.

Introductory Lecture of Joseph Pancoast, M D., Professor of Anatomy in Jefferson Medical College. Session of 1843–4.

Pharmacologia, being an extended Inquiry into the Operations of Medicinal Bodies, upon which are founded the Theory and Art of Prescribing. By J. A. Paris, M.D. Cantab., F.R.S. With Notes by Charles A. Lee, M.D, A.M., etc. New York: Harper & Brothers, 82 Cliff street. 1844. (From the Publishers.)

The Anatomy and Surgical Treatment of Abdominal Hernia. With numerous plates. By Sir Astley Cooper, Bart., F.R.S., etc. From the second London edition. By C. Aston Key, Senior Surgeon of Guy's Hospital, etc. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 428. (From the Publishers.)

Catalogue and Circular of the Albany Medical College. 1844.

Catalogue of the Medical Students and Graduates of the Fall Session, at Castleton, 1843, and Annual Announcement of the Spring Session, 1844.

Annual Report of the Managers of the State Lunatic Asylum. Made to the Legislature of New York, January 18, 1844. (From A. Brigham, M.D.)

The same from T. Romeyn Beck, M.D.

Memorial, signed "D. L. Dix," to the Legislature of the State of New York, relative to the indigent and pauper insane persons, in the county-houses of the State. (From T. Romeyn Beck, M.D.)

Catalogue of the Faculty and Students of Jefferson Medical College, for the Session of 1843–4.

Catalogue of the College of Physicians and Surgeons of the City of New York. January, 1844

Our space will only allow a condensed acknowledgment of the receipt of the following: Brande's Dictionary, Magendie's Physiology, Chailly's Midwifery, Chapman on the Thoracic and Abdominal Viscera, Smith's Anatomical Plates, and Webster's Introductory Lecture.

The London Medical Gazette. (In exchange.)
The American Journal of the Medical Sciences. (In exchange.)
The Boston Medical and Surgical Journal. (In exchange.)
The Medical Examiner. (In exchange.)
The St. Louis Medical and Surgical Journal. (In exchange.)
The Bulletin of Medical Science. (In exchange.)
The American Journal and Library of Dental Science. (In exchange.)

☞Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals.

⁂ For Prospectus see fourth page of the cover.

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TO READERS, CORRESPONDENTS, ETC.

☞ *To the Editors of Foreign Medical Journals*:—Having sent regularly, during the past year, our Journal to various medical editors in London, Paris, Edinburgh, Dublin, and Hamburg, and as most of these have done us the honor of making repeated extracts from our pages, we would take the liberty of asking the attention of those who have not yet transmitted their own Journal *in exchange*, to this (to us) not unimportant subject. These should be directed to the care of Wiley & Putnam, London.

A regular advertising sheet will be hereafter attached to the Journal; and as this belongs to its business department, all communications relative to it should be made to the publisher. The terms are cash in advance.

Contributions have been received from Drs. Le Conte, Delamater, and Stevens.

We have to acknowledge the receipt of the following works:

A Complete Condensed Practical Treatise on Ophthalmic Medicine. By Edward Octavius Hocken, M.D., Physician to the Blenheim street Infirmary, etc. London: 1844. 12mo., pp. 108. Part I. The work is to be completed in three parts.

The Cyclopædia of Practical Medicine. Edited by John Forbes, M.D., F.R.S., Alexander Tweedie, M.D., F.R.S., and John Connelly, M.D. Revised, with additions, by Robley Dunglison, M.D. Philadelphia: Lea & Blanchard. 1844. Parts I. and II. (From the publishers)

An Essay on the Blood in Disease. By G. Andral, Prof., etc. Translated from the French by J. F. Meigs, M.D., and Alfred Stillé, M.D. Philadelphia: Lea & Blanchard. 1844. (From the publishers.)

Two Years' Experience in the Employment of Magneto-Electricity, as a remedial Agent in Disease. By Dr. Nelson Waikly.

Transactions of the New York State Medical Society. (From T. Romeyn Beck, M.D.)

Address on Insanity, before the New York State Medical Society. By Samuel White, M.D., President of the Society. (From the author, and from T. Romeyn Beck, M.D.)

Valedictory Address before the Graduates of the Medical Department of Pennsylvania College. Session 1843–4. By Henry S. Patterson, M D., Professor of Materia Medica and Pharmacy.

Introductory Lecture to the Spring Session of Lectures, in Castleton Medical College. By Joseph Perkins, A.M., M.D.

Report of the Pennsylvania Hospital for the Insane, for 1843.

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The Contagiousness of Puerperal Fever. By Oliver W. Holmes, M.D. (From the author.)

The London Medical Gazette. (In exchange.)

The London Medical Times. (In exchange.)

The Dublin Medical Press. (In exchange.)

The American Journal of the Medical Sciences. (In exchange.)

The Boston Medical and Surgical Journal. (In exchange.)

The Bulletin of Medical Science. (In exchange.)

The Medical Examiner. (In exchange.)

The St. Louis Medical and Surgical Journal. (In exchange.)

The Illinois Medical and Surgical Journal. (In exchange.)

THE NEW YORK

JOURNAL OF MEDICINE.

FOR JANUARY, 1844.

PART FIRST.

Original Communications.

ART. I.—*On the Effects of Opium on the Infant Subject.* By JOHN B. BECK, M.D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of New York.

As a remedial agent, opium has always and justly been looked upon as one of the most valuable in our possession. It has been styled the "donum Dei," the gift of God to man, and Sydenham says of it, that it is "so necessary an instrument in the hands of a skilful physician, that the art of physic would be defective and imperfect without it; and whoever is thoroughly acquainted with its virtues and the manner of using it, will perform greater things than might reasonably be expected from the use of any single medicine."* High as this panegyric is, it is unquestionably just. Admirable, however, as this agent is, if properly used, it is equally true that, in unskilful hands, there is scarcely any article, in the whole range of the materia medica, capable of producing a greater amount of mischief. That this must be the case, is evident, if we reflect for a moment upon the nature of the effects which it is capable of producing, and, at the same time, recollect that these effects are not uniformly the same, but are modified by various circumstances. Thus, at one time, we find it operating exclusively as a stimulant, while at another it displays nothing but its sedative power. Given under certain conditions of the system, it quiets irritation, calms the pulse, softens the skin, and promotes balmy sleep. Under other conditions of the system, it quickens the pulse, suppresses the secretions, increases animal heat and disturbs the brain. In the one case, the state of the patient is materially improved; while, in the other, it is rendered worse. It depends, then, entirely upon the circumstances under which it is given, whether it will prove salutary or injurious, and it is this which renders the proper use of it a matter which requires so much tact and experience.

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* The Works of Thomas Sydenham, M.D., with Notes by Benjamin Rush, M.D., p. 115.

Now, the circumstances which modify the action of this agent are numerous. Age, sex, temperament, climate, nature of the disease, stage of the disease, in short, everything which can affect the condition of the system, modifies, in a greater or less degree, its effects. To understand, therefore, completely the manner in which it operates on the system in its different phases, it is necessary to analyse all these modifying circumstances. On the present occasion, I propose to make a few remarks upon only one of them, viz., *age*, with the view of showing more particularly the peculiarities of its operation on the young subject.

With regard to the effects of opium on young subjects, there are two facts which seem to be well established. The *first* is, that it acts with much *greater energy* on the infant than it does on the adult; the *second* is, that it is more *uncertain* in its action on the infant than the adult. It is in consequence of these peculiarities attending its operation on the infant, that even the smallest quantities have not unfrequently produced the most unexpected and even fatal results. Of this, almost every physician must have seen some melancholy instances. Dr. John Clarke states, that "half a drachm of genuine syrup of white poppy, and, in some instances, a few drops of Dalby's Carminative, have proved fatal, in the course of a few hours, to very young infants."* In one case, he says, forty drops of Dalby's Carminative destroyed an infant. Mr. Marley says, "I have known three or four instances where the most dangerous symptoms were produced by Godfrey's Cordial and Dalby's Carminative; two nostrums which have no doubt added considerably to the mortality of infants." In a case that fell under his observation, the most rapid and alarming symptoms followed the exhibition of an ordinary dose of syrup of poppies. In another case, he knew half a small tea-spoonful of the syrup of poppies prove nearly fatal to a child eight or ten days old. Thirty-five drops of Dalby's Carminative, he has known to prove fatal to a young child, while, in other cases, larger doses have been given without any unpleasant effects. The same writer relates the case of an infant, nearly poisoned, by considerably less than half an ordinary-sized tea-spoonful of paregoric.† Dr. Bard says, he once knew an infant of several months old killed by ten drops of laudanum, and another brought into very great danger by less than two drops.‡ Dr. Montgomery states, that he has known more than one instance in which a tea-spoonful of the syrup of poppies has proved fatal to a healthy child.§ Professor Hamilton relates two cases, in which four drops of laudanum proved fatal to children some months old.‖ Dr. Merriman reports two cases, in which a dose of Godfrey's Cordial proved fatal.¶ He also states, that he once saw a child in the month thrown into a state of excessive stupor, by taking one dose only of a mixture in which there were four drops of laudanum; the actual quantity swallowed could scarcely have amounted to one drop.* Dr. Cristison states, that "the administration of three drops of laudanum in a chalk mixture for diarrhœa, to a stout child, fourteen months old, was followed by coma, convulsions and death in six hours." In another infant, a few weeks old, death resulted from taking four drops of laudanum.† Dr. Ryan states, that he has known one drop of the "sedative liquor of opium" narcotize an infant‡. Of laudanum, two drops have been known to kill an infant, nay, in one case, a single drop destroyed a new-born infant.§ I have myself seen a young child narcotized by about twenty drops of paregoric. The foregoing facts are sufficient to show that opium acts with peculiar energy and uncertainty upon the infant subject. The causes of this would seem to be the following:

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* Commentaries on the Diseases of Children, p. 33.

† On the Diseases of Children, pp. 29, 30, 31.

‡ Bard's Midwifery, p. 328. § Pereira's Mat. Med., vol. ii., p. 711.

‖ A Treatise on the Management of Female Complaints and of Children in Early Infancy, p. 344.

¶ Treatise on the Diseases of Children. By M. Underwood, with Notes by Merriman, Hall, and Bell, p. 106.

In the *first place*, the great difference in the physical organization of the *infant* and the *adult*. In the young subject the brain and nervous system are much more impressible, and the slightest causes, as we know, will sometimes derange them. Besides, in the infant, the circulation is more rapid—there is a greater proportionate quantity of blood circulating in the brain, and hence a much greater tendency to cerebral determinations. From these peculiarities in the organization of the infant, it happens that convulsions are so much more common in the early periods of life. Thus, for example, the irritation of teething—of worms or crude matters in the intestines, is frequently followed by convulsions. Intermittent fever, which in the adult commences with a chill, in the child is frequently ushered in by a convulsion. Scarlet fever, too, in the child, not unfrequently commences with a convulsion, while in the adult I have never witnessed such an occurrence. Now, with such peculiar predispositions characterizing the system in infancy, it may readily be conceived how it is that such an article as opium should act with more power at that period than in after life.

In the *second place*, the difference in the *temperament* or *constitution* of infants. In the adult, we know as a matter of fact, that opium differs greatly in its effects in different constitutions. Thus, as a general rule, the sanguine temperament does not appear to bear the use of this drug as well as the melancholic or the nervous. In the former, it is much more apt to produce cerebral disturbance, and in large doses is more likely to prove injurious. Now, infants differ from one another, as much, if not more, than adults, in these peculiarities of constitution, and, as a matter of course, the difference in the effects of this article must be greater. Besides, as these peculiarities and differences can only be detected by actual experience, and as we cannot of necessity have the same benefit of experience in the case of infants, it is obvious that the difficulty of justly appreciating the action of this drug on the infant must be greatly increased. A greater or less degree of uncertainty, therefore, must necessarily from this cause attend its use in the early periods of life.

In the *third place*, the actual state of the system as to disease. There is no circumstance which modifies the effect of opium in so great a degree as this. In the adult, we see this continually. In some conditions of the system, even small doses produce the most unpleasant effects, while in other conditions, immense quantities may be given with little or no effect; thus, for example, when severe pain or spasm are present, quantities of this article can be borne, which under other circumstances would prove exceedingly injurious. As illustrative of this, I quote an interesting case related by Dr. Percival. He states that a young man was admitted into the Manchester Hospital, on account of a violent spasmodic disease which recurred periodically in the evening, and after trials of various remedies, doses of opium sufficiently large to mitigate the violence of the paroxysm were ordered, and he took twenty-two grains every night during a week, without producing any soporific effect. On the eighth night he had no return of the spasm. He nevertheless took the opium and in the morning was found dead.* In this case, a great and sudden change had unquestionably taken place in the nervous system of the patient, and to this must be ascribed the difference of effect. If in the adult, the state of the system makes such a wide difference in the effects of this article, how much more so must all this be the case in the sensitive infant; and it is by not duly regarding this, that such unexpected results sometimes follow from the use of opium. Thus, for example, a child laboring under the acute pain of colic will tolerate doses, which, in the ordinary condition of the system, might prove destructive.

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* Treatise on the Diseases of Children. By M. Underwood, with Notes by Merriman, Hall, and Bell, p. 143.

† Treatise on Poisons. Second Edition, p. 625.

‡ Midwifery, p. 477.

§ London Medical Gazette for 1839, p. 294.

There is one condition of the young subject particularly in which this remedy is frequently resorted to, in which this is strikingly illustrated. I mean that state of exhaustion which arises from diarrhœa and other bowel complaints. In this state the head is very apt to become affected, and if opium be given with a view of checking the intestinal discharges, not unfrequently insensibility gradually creeps over the little sufferer, and in a short time death is the result; and this, too, even when the quantity used has been apparently adapted with great nicety to the wants of the case. Every observing practitioner must have witnessed such instances. Now in many cases of this kind, there can be no question that the child sinks under the sedative influence of the opium; and the reason is that, in the exhausted state brought on by the disease, the system succumbs much more readily to the narcotic effects of this article, than it does in other conditions of the system.

The foregoing considerations appear to me sufficient to account for the greater power, as well as uncertainty in the action of opium on the infant, than on the adult.

If it be a fact, then, that opium acts in this way upon the infant, it appears to me to involve inferences of great practical moment, which cannot be too deeply impressed on the mind of the young practitioner.

1. That its use should *be avoided as much as possible* in the young subject. I will not say that it ought to be interdicted altogether, because if used with discretion, it is a remedy of great value in many of the diseases of infants, but it should never be used unless there exists a strong and manifest necessity for it.

2. Great caution should be exercised in the form in which it is administered. No preparation should ever be used, which *is not of a known and determined strength.* In England, the *Syrup of Poppies* is

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* Percival's works, vol. i., p. 422.

the preparation most used for children. In this country it is also used, but not to the same extent. This is a pleasant and mild opiate, and on these accounts is well adapted for children. It is liable, however, to great objections. Besides being apt to ferment and spoil, it is very *variable in its strength.*[*] On this account it is really a very dangerous article; and many cases are recorded (some of which I have already related) in which fatal results have followed the use of it, even in moderate doses. Another objection is, that it is liable to sophistication. Thus a mixture of *laudanum and simple syrup,* has sometimes been sold for it. In the London Medical Gazette (May, 1831, p. 253), a case is related, where a child died in consequence of a small dose of this latter compound having been given by the mother, who had previously given the same quantity of the pure Syrup of Poppies, with advantage.

The best preparations for children are *laudanum,*[†] and *elixir paregoric.* These are of known strength, and susceptible of division into the minutest doses. *Dover's powder* is another preparation, which may be given to children. It may readily be divided into the smallest doses, and it seems to act much more mildly than equivalent doses of simple opium. It need hardly be stated, that all such articles as Godfrey's Cordial, Dalby's Carminative, &c., should be totally discarded from regular practice. Besides being uncertain in their strength, and on that account exceedingly objectionable, the sanction thus given to them encourages their use by persons out of the profession, who cannot be supposed to be acquainted with the dangerous effects of opium on the infant system.

3. In very young subjects, we should never begin the use of this article, except in *very small doses.* Although most practical writers lay down cautions about the use of opium in these cases, yet it does not appear to me that these cautions are sufficiently precise. Most of the writers to whom I allude, specify doses as suitable to certain ages, without stating, that even these doses may, in certain conditions of the system, prove just as injurious as much larger doses. To illustrate, I will quote the directions given by one of our standard authorities. Dr. Dewees says, "the proper dose of laudanum for infants and children, may be reckoned at the following rates. Half a drop for a child under ten days old; a drop, for one from that period to the end of the month; a drop and a half, or two drops for one from that period to three months; three drops from this to nine months, &c., &c." "When laudanum is to be used as an injection, we may safely increase the quantity three or four fold." He adds, "These doses are prescribed for children who are altogether unused to the use of this drug; the power of bearing more, may be rapidly increased by habit."[‡] Now, it appears to me that a more

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[*] When properly prepared, *one ounce* of the Syrup of Poppies is generally estimated to contain about one grain of opium; a drachm, therefore, contains $\frac{1}{8}$th of a grain. From the variable proportions, however, of active principle contained in the capsules of opium, it is impossible to calculate with any degree of precision, the strength of the syrup prepared from them.

[†] Even this preparation should not be given without circumspection. "When long kept, with occasional exposure to the air, laudanum becomes thick in consequence of the evaporation of a portion of the alcohol, and the deposition of opium. If given in this state, it often acts with unexpected energy, and cases of death have resulted in infants from its use in doses, which would have been entirely safe if the tincture had been clear."—*Wood & Bache's Dispensary, p.* 1032, *2d ed.*

[‡] On the Diseases of Children, p. 363.

dangerous set of directions could not well have been given. Although many children may bear the quantities here specified without injury, yet every now and then a case will occur, in which the most serious results will follow ; and it is against these that the necessary precautions should always be taken. In the case of a new-born infant, we are entirely ignorant of the manner in which such an article as this will affect it, and it therefore will not do to begin with *average* doses. To practise safely, we must feel our way with doses much smaller ; and then we shall have some guide, and the only guide which the nature of the case admits of, to make the necessary increase in the quantity to be given. Under no circumstances, as a first dose, ought half a drop to be given to a child under ten days—or a drop to a child during the first month. One eighth of a drop is sufficient to begin with. The quantity, too, directed for an injection is too large. Instead of three or four times the quantity given by the mouth, as far as my experience goes, double the quantity is quite sufficient.

4. The doses of opium should not be repeated *at too short intervals.* This, too, is a point which is not sufficiently guarded by some practical writers. One writer, for example, after specifying the quantity suitable for a child of two and three months, adds, that " this is not to be repeated in less than an hour." If this means anything, it means of course, that after the lapse of an hour, the dose may be repeated with safety. This, however, will not be sustained by experience. Even if a first dose does not narcotize, it frequently produces a degree of listlessness and indifference to food on the part of the child, which, if it be kept up by repetitions of the opiate, may eventually prove just as destructive. This is strikingly illustrated in those states of exhaustion from diarrhœa, where the due supply of nourishment is so essential to recovery. Where repeated opiates are necessary, the intervals between the doses should be long enough to enable the child to recover somewhat from the sedative influence.

Before concluding these observations, I cannot refrain from making a remark or two in relation to the use of this article by persons out of the profession. The mischief that is done in this way is incalculable. If, in the hands of those acquainted with its virtues, opium is an article so dangerous and uncertain in its action, what must it be in the hands of the ignorant ; and yet we see it given to infants, day after day, and night after night, by nurses and mothers, not merely without the consent of the physician, but sometimes contrary to his express injunctions.

There are two ways in which it is used by persons out of the profession, in both of which it proves injurious to the child. The first is by giving it in occasional doses ; the second, by giving it constantly. The first is bad enough, but the second is still worse. The first, now and then, unexpectedly destroys a child ; the second is followed by a train of the most disgusting consequences, worse, if possible, than those of habitual drunkenness in the adult. Fortunately, these latter cases are not of such frequent occurrence ; occasionally, however, they are met with where the parent, for the purpose of quieting it, has been induced to keep a child for months under the daily influence of paregoric, Godfrey's Cordial, or some other opiate nostrum. In these cases, the effect is to stunt the growth of the child ; it is emaciated and puny ; the skin is flabby and shrivelled ; the lips are bloated, and the countenance sallow and wrinkled. There is an absence of all intelligence, and the whole appearance is haggard and aged, presenting a sort of "miniature of old age." Not long since I witnessed a case of this kind, in which a child of fourteen months old did not appear larger than one of two or three months. With the exception of one month, it had been kept upon paregoric almost every day since its birth. The mother was a poor woman, and on inquiring of her the reason, she stated that she had resorted to this method of keeping the child quiet while she attended to her work.

Of the extent of the mischief annually perpetrated by the unprofessional use of opium, some idea may be formed from a report made to the House of Commons, containing returns from the coroners of England and Wales, of the inquisitions held by them during the years 1837 and 1838, in cases of death by poison. The total number of deaths by poison in these years was 543, of which 52 were very young children, most of them at the breast, in consequence of opium, or some of its preparations having been given by mothers and nurses, in ignorance of its effects. In addition to this, 20 more were destroyed by opium or laudanum administered in mistake for other medicines.*

These facts are certainly appalling; and if any subject connected with medical police is worthy of the attention of the public authorities, it is certainly this. How the evil is to be corrected, it is not easy to say. Much, however, might be done by the proper dissemination of information on the subject. In most cases where opium is administered to children by persons out of the profession, it is disguised in the shape of some nostrum, so that they are not aware of what they are giving, and even when they are aware of it, they are not acquainted with the dangerous effects of it on the infant system. If parents and nurses were made better acquainted with the fact that such articles as Godfrey's Cordial, Dalby's Carminative, and most of our medicated lozenges and candies, owe all their composing properties to the opium which they contain, and that opium even in small doses is frequently a deadly poison to the infant, one would suppose that it could not but exert a salutary influence in correcting, to a certain extent at least, the evil of which we are speaking, and the dissemination of this kind of knowledge by the proper authorities would confer a lasting benefit upon the community.

I have thrown together the preceding observations because the subject is one of interest and importance, and because it appears to me that it has not sufficiently attracted the attention of the profession.

ART. II.—*Case of Removal of Uterine Polypus.* By JOHN V. P. QUACKENBUSH, M. D., of Albany.

I WAS called to Miss ——, ætatis 39, June 4, 1843, whom I found much exhausted by a severe hemorrhage, which had existed for a number of days. She told me she had not enjoyed good health for two or three years, during portions of which time she had been under medical treatment; that every month she suffered much from excessive flooding, every successive turn of which rendered her still weaker; and that she had now given up all hopes of ever getting well.

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* See Dunglison's Intelligencer, vol. iii., p. 299.

On making an examination per vaginam, I found the uterus in the following condition. The neck was entirely obliterated, as at the ninth month of pregnancy, and it gave the same sensation to the touch as when the membranes have been prematurely ruptured, and the head of the fœtus presses directly upon the walls of the uterus. The os uteri was dilated one inch in diameter; and upon inserting my finger, I discovered a hard tumor, which I pronounced to be a polypus. I now inspired my patient with hopes, by stating that I thought I would be enabled to remove it during the course of the summer. I endeavored to suppress the hemorrhage by means of astringents and injections, but did not effect much by my treatment. In the course of a few days, when the hemorrhage had ceased, I prescribed muriated tincture of iron, drops twelve, morning, noon and night, and the daily ablution of the parts with cold water. Under this treatment my patient gained much. She became stronger, regained her appetite in a great measure, and was enabled to sleep well, which she had not been able to do for many months. She continued to improve until August 20th, when she had another very severe attack of menorrhagia, accompanied with regular labor pains. I visited her, and, on examination, found that the polypus had descended from the uterus and now occupied the vagina. I decided upon operating; and not being able to obtain any suitable instrument at the time, I constructed one for myself (a diagram of which accompanies this, and which has at least one recommendation—simplicity). I applied my ligature, August 26th. During the time the ligature was applied, the patient appeared to grow weaker daily, and I was compelled to support her strength by administering stimulants. On the sixth morning, Sept. 1, the ligature came away; and, upon examination, I found the polypus detached and lying loose in the vagina.

In the evening a messenger came after me, wishing me to visit my patient immediately, as she was much worse. I found her suffering severe pain, caused by the efforts of the vagina to relieve itself. The polypus was expelled during the evening; the patient fell asleep and slept soundly till morning, when she felt much refreshed, and appeared better than I had seen her for a month previously. Since that time, she has been gradually improving; and she is now able to sit up during the greater portion of the day.

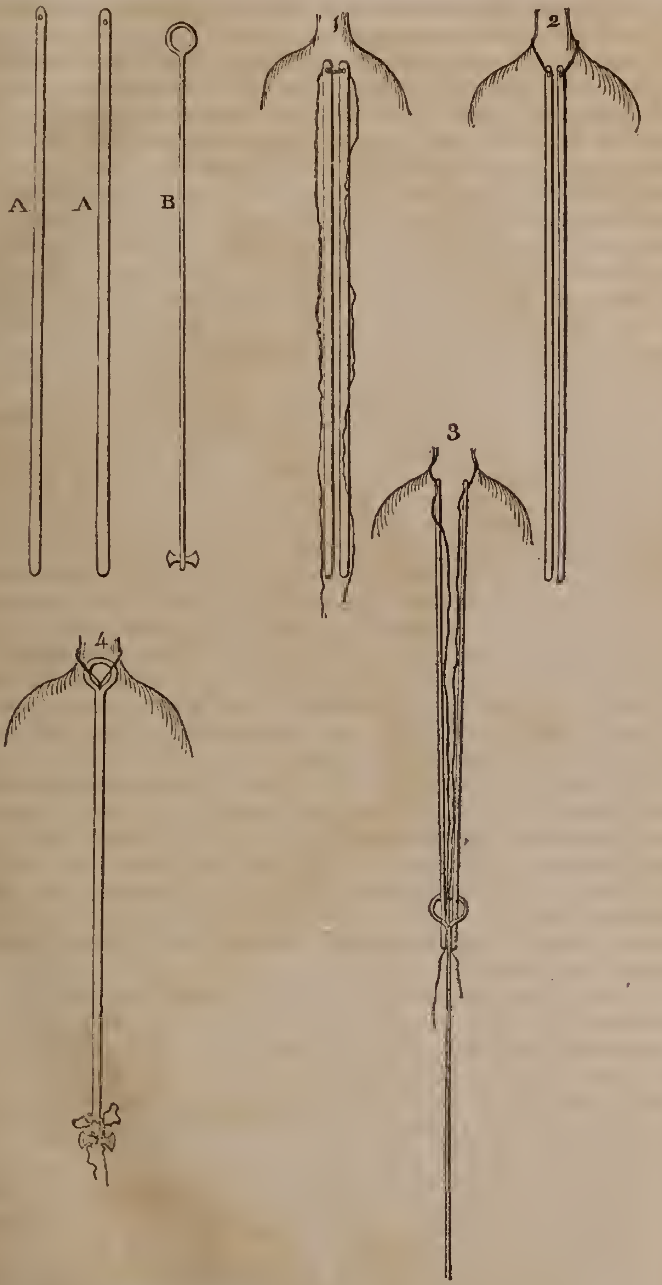
The tumor, after being deprived of all the blood it contained, weighed ten ounces.

At the time I operated, there was another tumor, of the size of a goose-egg, connected, as I supposed, with the left ovarium, which had existed for more than a year. On Sunday, Sept. 3, my patient had a discharge from the vagina, of a substance which, from the description she gave of it, I considered to be pus.

While the discharge continued, the tumor *seemed* to diminish; and this morning, Sept. 18, upon examination, I could not feel it, except when I pressed very hard upon the walls of the abdomen. It does not now appear larger than a filbert.

Upon the nature and situation of this tumor, I will leave you to decide for yourself.

The instrument I used, consists of three small rods, about eight inches in length and perfectly straight. Two of the rods (AA) have a small hole



AA—Two rods, 8 inches long, 1-12 inch in diameter.

B—Rod of same dimensions, having a loop or ring to pass up over the other two, with its shoulder for fastening the ligature.

The instrument can be constructed either of silver or steel.

at one end, large enough to admit the ligature. The other rod (B) has a loop at one end, large enough to allow the first two rods to pass; and, at the other end, a shoulder, around which the ligature is to be fastened.

The instrument is to be applied in the following manner:

The two rods, armed with a ligature, are placed side by side, and, guided by the finger, are to be passed up the vagina, along the polypus, till their upper ends reach that part of the stalk round which the ligature is to be applied. Now the rods are to be separated and moved quite round the polypus, so that a portion of the ligature will encircle the stalk; then the loop of the third rod is to be slipped over the other two, by which means they are drawn together: all which being effected, the two rods are to be withdrawn, and the ends of the ligature with them.

You now fasten the ligature around the shoulder, and leave nothing in the vagina with it but the simple rod.

Such is the instrument I wish to introduce, and which I think possesses two advantages over the one generally used.

First, it is much more simple and easily constructed; and, secondly, as it is much smaller, it will consequently cause much less irritation during its application.

ART. III.—*Pyretological Inquiries. No.* 1. *Gastro-enteritis; as a cause, or concomitant of Fever.* By WM. C. ROBERTS, M.D., Physician to the Northern Dispensary.

THE great medical revolutionist of modern times, enumerated, as the basis of the theory of fever held by the so-called "physiological" school, three celebrated propositions: first, Inflammation of the gastric mucous membrane, is *never* met with in the cadaver, but with that of the small intestines; it is then far better to call it "gastro-enteritis:" secondly, all the *essential* fevers are to be referred to a simple or compound gastro-enteritis: thirdly, Fever is always the result of an irritation of the heart, primitive or sympathetic. We thus perceive that Broussais did not refer *all* fevers to gastro-enteritis as he is supposed generally to have done.

Broussais was not the first person who asserted the dependence of fever upon gastro-enteric, or other inflammation. The labors of certain observers of the seventeenth and eighteenth centuries, Roederer and Wagler, Michael Sarconi, Morgagni, Baglivi, and others, appeared to have prepared the way for an inevitable reform in the doctrine respecting those fevers said to be essential. They tend in fact to embrace those affections within the great class of the phlegmasiæ. However, toward the close of the eighteenth century, an illustrious French nosographer, Pinel, published his famous classification of essential fevers, which consisted in formally separating this class of diseases from that of the phlegmasiæ. He divides the class of primitive, or essential fevers, into six orders: viz., inflammatory or angiotenic; bilious or meningo-gastric; mucous or adeno-gastric; putrid or adynamic; malignant or ataxic; adeno-nervous or typhus, properly so called, and plague. The work of

MM. Petit and Serres, published in 1813, was likely, as it appeared, to be the promoter of a profound pyretological revolution. Such was not, however, the case; and far from thereby invalidating the reigning doctrine, the now venerable Petit, not daring to decide whether the disease which he was describing was new and evanescent, and misunderstood before his time, separated it positively from the numerous and varied classes of adynamic fever, with which, by an error, he says, common to him and all other practitioners, he had previously confounded it. Petit recognized in entero-mesenteric fever, an affection sui generis, distinct from all which had previously been described. To the author of the Examen des Doctrines, etc., published in 1816, was reserved the marked honor of accomplishing the great work of the localization, or rather the dissentialization of fevers, and of overturning, from top to bottom, the system of Pinel. A new pyretological era, then, dates from the publication of this remarkable work.

Among the most energetic of the opponents of Broussais, is Chomel, who, in his treatise on the typhoid fever, regards the intestinal ulcerations which are met with in that disease, as being very often the *effects*, and seldom *the cause* of the symptoms which are observed. Chomel is generally supported by Louis, and ably opposed by Bouillaud, an enthusiastic and very clever disciple of the physiological school. Andral, the sagacious and philosophical, in the first edition of his Clinique, avoided committing himself positively on the grand question of the non-essentiality of fevers; but in later editions of that inestimable work, he declares that the progress of science had induced him to devote a volume specially to fevers, and that, interpreting otherwise than he had done, cases of that disease, he had arranged some under the phlegmasiæ of the nervous centres, and others among those relating to the inflammations of the abdominal viscera. "Such was," says Bouillaud, "the opinion which I had myself developed in my Clinical and Experimental Treatise on Essential Fevers, 1826." It seems, however, to be only just to the memory of Pinel, to declare that while he advocated the doctrine of the essentiality of fevers, and carefully laid down the distinctions between those which are primary and those which are secondary, he nevertheless assigned to each species of primary fever admitted into his classification, a concomitant local disturbance. He held that inflammatory fever was connected with disturbance in the general circulatory system; bilious fever, with disorder in the digestive organs; a particular form of gastric fever, with disease in the intestinal mucous follicles; nervous fever, with derangement of the brain and nervous system; and typhoid fever, with depression of the vital powers; thus, obviously, in some measure localizing the disease.

After this brief historical account of the theories of fever, dating from the publication of Petit and Serres, we proceed to inquire into the correctness of Broussais' assertion, that *all* the *essential* fevers are to be referred to a simple or compound gastro-enteritis. That is: whether in all essential fevers, we may expect to meet with inflammation either of the stomach or intestines, or both, of whatsoever nature. In order to ascertain the views of the writers of the present day, in reference to this subject, we will begin, without particular regard to chronological succession, with the opinion of Louis. This author asserts that in all the cases he has noted under the general name of fever, an intestinal lesion was constant. He adds: "we cannot call the typhoid affection a gastro-enteritis, for the mucous membrane of the stomach was more frequently in a natural condition after the typhoid affection, than in subjects who died of any other acute disease." He has also given some cases where the anatomical appearances were deceptive, *i. e.*, where those which had been expected did not appear. Dr. Stokes asserts, that we "cannot affirm that every continued or typhoid fever, implies the existence of a gastritis;" but that the alteration of the small intestines is much more frequent. And he elsewhere says, that "observations formerly cited do not permit us to doubt, that in the human species, symptoms completely similar to those of dothinenteritis, may occur without it, and without *any* lesion of the digestive tube." Dr. Gerhard, of Philadelphia, says that "the triple lesion constituting the anatomical character of typhoid fever, did not exist in the epidemic fever." Chomel tells us that Louis and Andral show, that in several cases in which, during life, the symptoms had been exactly those of typhoid fever, yet there were none of the alterations proper to this malady, *nor any others* to which the symptoms could be referred." He assents to the wish of Louis, that of such cases an indeterminate affection should be made. Doctor Christison, of Edinburgh, has given us the results of his observations on this subject. Before we cite them, we will quote some remarks of his, bearing on the general subject with which we are engaged. "Local inflammation in particular, has appeared to some modern cultivators of pathology, to be so invariably an attendant on what are called primary continued fevers, that they have been led to call in question the existence of any *true* primary fevers, and to maintain that fever of every kind is constantly a sympathetic affection; a phenomenon secondary to inflammation in some special organ. The doctrine here alluded to, which has gained not a few converts in Great Britain, and which, on the continent, but especially in France, seems at the present time to predominate, *is of so much consequence*, both as striking at the very root of the theory of fever previously current, and also as involving practical precepts of high importance, that a necessity arises for considering the subject in some detail. And the necessity becomes not the less urgent, if it be true, as appears highly probable, that the doctrine in question, however specious and widely disseminated, is in reality untenable; being founded, like many other hallucinations in physic, upon narrow, though as far as it goes, correct enough observation. There can be no question that the essentialists who looked almost entirely to fever in the abstract, neglected too much the local affections which attend it, and to which so much importance has been attached in modern times." He then states that examples of the three forms of continued fever, synocha, synochus, and typhus, occasionally present themselves without any appreciable sign of local inflammation during life, or any corresponding alteration after death. Again, he says, "gastritis and muco-enteritis are undoubtedly met with in the fevers of Britain. Much more frequently, however, both are absent, and the common rule is, that a case of fever passes through all the stages of the disease, without any symptoms whatever referable to disordered bowels, except a little flatulent distension, vague uneasiness, and constipation. But in particular, diarrhœa, the most invariable symptom, both of the milder and more severe disorder, is comparatively a rare incident; at all events, far less common than the very opposite condition." Again: "There can be no question that cases of death from the continued fever of the typhoid, or synochus type, occasionally present themselves where no *morbid appearances what-*

ever are detected, except congestion of internal organs. In the epidemics of Edinburgh, it is rare to find any unnatural condition of the intestinal mucous membrane, so constantly observed in France; frequently the entire tract of the alimentary canal is quite healthy." "When we remember," says Dr. Tweedie, "how many cases of pure fever have been examined by good anatomists in this and other countries, and even in the very place from which the notion first originated, and no unhealthy appearances discovered, I confess I am inclined to regard this condition of the mucous membrane (inflammatory, according to Broussais), as one of the many complications of this inscrutable disease." In 523 cases of fever, mentioned by this author, thirteen presented no disease in any part of the intestinal canal, or in any of the abdominal viscera. Dr. Roupell, in a "short treatise on Typhus fever," observes—"I have met with several cases in which no morbid change was perceptible to our ordinary methods of investigation." And again: "How indeed can M. Broussais' theory be admitted, that typhus is produced by gastro-enteritis, when we find that many cases terminate either by death or recovery, without any symptoms referable to the bowels in the one case, or any morbid alterations in the other?"—Am. Ed., p. 118.

Andral, in the first edition of his Clinique, divided fever into three classes; in the third of these classes, he places cases in which the typhoid symptoms were observed *without* lesions of the digestive tube. In them, as in follicular enteritis, it is, he says, in the nervous centres, secondarily affected, that we must seek the cause of the severity of the disease; it is in the modifications which *they* have undergone, that we must seek the explanation of the symptoms. In one case mentioned by him, the symptoms of which, however, were more ataxic than adynamic, the only lesion of the digestive tube consisted in numerous ulcers in the stomach. Again he says: "In the pyrexiæ, which constitute the different morbid groups designated in Pinel's Nosography by the name of essential fevers, we do not always find after death lesions of the digestive tube." Respecting the stomach, he says, "it is found healthy in a considerable number of persons who die during what is called essential fever, whatever may be its nature, or the symptomatic form of it. The changes found in the stomachs of persons who die during the progress of this fever, have nothing peculiar; nothing which can constitute their anatomical character. These changes do not differ from those discovered in the bodies of persons who have died of other diseases, whether acute or chronic. They are met with in nearly equal frequency, both in those who have died with continued fever, or of any other disease." "Every essential fever then," he concludes, "is not necessarily the product of gastritis. The traces of gastritis found on opening bodies, cannot always suffice to explain the different morbid groups called essential fevers." But he also admits that there are cases, however, where acute gastritis should be considered as the cause of typhoid fever. "Primitive acute follicular enteritis," says Cruveilhier, "is not an enteritis properly so called, *much less is it a gastro-enteritis*, the stomach being almost always healthy in that disease; one may in vain ingest by the mouth or by the anus, all the acridities, all the stimulants imaginable; follicular enteritis would never be produced by them."

Resting upon these most respectable authorities, it follows from the quotations made, that in many cases of essential fever, there is neither gastro-enteritis, nor even separate lesions of the stomach or intestines;

and, therefore, as also for the reasons assigned by Andral, we must dissent from the correctness of the 2d of the propositions assumed by the celebrated Broussais, and consider as erroneous the very postulate, upon which is built the whole superstructure of the "physiological" doctrine of fever.

If, then, as appears to be established, *all* the essential fevers cannot be referred to a simple or compound gastro-enteritis, let us next inquire whether we can have an essential fever, in which no marked lesion of any organ shall be discoverable after death? "If," says Chomel, "in the actual state of science, *when no appreciable lesion shall be discovered*, or when those which are observed are not sufficient to account for the gravity of the symptoms, we are necessarily led to admit a concealed alteration either in the nervous system or animal fluids." "Shall we not," says Andral, "be warranted in saying that the symptoms called adynamic or ataxic, are the results of a disturbance in the action of the nervous system; a disturbance sometimes primary, *and which may then exist without a lesion appreciable on opening the body*, but most frequently consecutive," &c. On the strength of these two citations, we derive the conclusion that essential fevers may exist without the presence of lesions appreciable after death; and as a corollary from all that has preceded, we may assert, that to designate such fevers by the name of "gastro-enteritis," is inaccurate.

In defence of the school which he so warmly supports, Bouillaud observes: "If it is true that the ileum alone may inflame, it is not less true that the stomach, duodenum and jejunum may also inflame isolatedly. These inflammations will have symptoms different from those of the inflammations of the ileum, and will *constitute* the diseases formerly designated under the names of gastric, or bilious simple fevers; and as, on the other hand, there are cases in which the upper and lower portions of the small intestines inflame, simultaneously, successively, or conjointly with the stomach, those mixed fevers will result, designated under the names of bilioso-putrid, gastro-adynamic fever," &c. "It would," he adds, "be a great error of observation and reasoning (I mean of the most exact reasoning), not to localize with Broussais and Pinel himself, the gastric and bilious symptoms in the stomach and its annexes." . . We perceive that in this extract, Bouillaud asserts the gastro-enteric origin of some cases of fever; but this connection is not proved or said *always* to exist: nor if it were so, is it proved that the inflammations are the causes rather than the consequences of the fever. It would, indeed, be a grave error to deny to such fevers as really do co-exist with gastro-enteric symptoms, a gastro-enteric connection; but we have seen that such connection does not *always* exist, and as the symptoms of bilious and gastric derangement are often present during life, without leaving behind them traces of an inflammatory action in the stomach, it becomes an additional argument against even that localization which Bouillaud maintains to be often necessary in sound reasoning and observation.

The 3d inquiry, to which we shall briefly allude, is this: may there, in fever, exist enteritis without gastritis, or gastritis without enteritis? Now, the very quotation we have just made from Bouillaud, affirms this. Louis distinctly states, in speaking of the fever which is attended with glandular ulceration, that its cause is not always to be found in any appreciable *lesions of the stomach*, whereas the *intestinal* lesion was constant. He adds, that he considers the lesions in the stomach which are met with, as only secondary; and asserts that no gastric symptom by itself, can aid us much in the diagnosis of lesions of the stomach. We cannot, then, in every case, subscribe to the opinion of Bouillaud, that "the gastric symptoms, properly so called, when well pronounced, seem to be the expression of a *truly inflammatory* state of the mucous membrane of the stomach, either simple or combined with a similar state of the upper part of the small intestines, with reaction on the biliary apparatus (bilious fever)." And we glean from the answer to the query proposed, an additional argument against the use of the term "gastro-enteritis" as a synonym of essential fever. Let us further add, that the facts now stated, invalidate the correctness of the first of the propositions asserted by Broussais, that "the inflammations of the gastric mucous membrane are *never* met with in the cadaver, but with those of the small intestine."

These arguments, which appear to us to be conclusive, are four: 1st, Gastro-enteritis is not met with in all cases of essential fever; 2d, In some cases no marked lesion whatever is appreciable; 3d, Gastritis or enteritis may exist isolatedly in such cases; 4th, The gastric symptoms met with in fevers, are not necessarily connected with marked lesions of the stomach itself. In corroboration of the last remark, let us adduce the testimony of a sensible and tolerably disinterested physician, of much experience in the disease in question, Dr. Tweedie. "There are no symptoms which can be depended on to indicate the existence of gastro-enteritis in fever." We have taken the pains to analyse the symptoms in eighteen cases of typhus or typhoid fever, contained in his Clinical Report, and find that in four, presenting tenderness of the belly or epigastrium, retching and relaxation of the bowels, no such lesions were met with; while in several in which they existed extensively, no abdominal symptoms appeared. And these results correspond with what all writers have stated, and could, if it were necessary, be substantiated by an abundance of examples. A single remark from the very highest medical authority extant, may be introduced in further confirmation. "Very often," says Andral, "we have been unable to establish any relation between the intensity of these lesions and the severity of the symptoms, so that, for instance, in the digestive tube of an individual who died during the course of a slight bilious fever, we found an alteration equal in its nature and intensity to that which we detected in the intestine of another who died with the very worst symptoms of an ataxo-adynamic fever."

But if we have shown that we are not to look for lesions of the gastro-intestinal mucous membrane, in every case of fever; and if, moreover, the symptoms may exist while the anatomical lesions are themselves absent, are we, on these accounts, to attach less importance to the fact, that they are of very frequent occurrence? Far from it. If, on the one hand, the non-essentialists have overlooked too much the importance of the general febrile state, the influence of the *materies morbi* in the production of the local lesions, and raised too high their importance as the exciting cause of the disease in question, induced to do so by an excessive confidence in the visible indications of pathological anatomy; the essentialists, on the other hand, have looked too much to fever in the abstract, and too much neglected the local inflammations which attend it. Our choice must be a prudent eclecticism. Let us bear in mind the second corollary of Andral. "In the pyrexiæ, which constitute the different morbid groups, designated by the name of essential fever, lesions of the digestive tube are found very frequently after death, in ninety-eight cases out of a hundred." "The frequency of intestinal lesions in fever," continues this conscientious and philosophical author, "has so convinced me of their importance, that although I know them to be sometimes wanting, and also, that when they do exist, they cannot explain everything, still, I have thought it right to speak of fevers in that part of my Clinique, which is especially devoted to the diseases of the abdominal organs." Having divided fevers into three classes, the second of which comprises those in which, fewer in number, the digestive tube presents, not an affection of its follicles, but a simple inflammation of its mucous membrane, characterized by redness and softening (the gastro-enteritis of Broussais), he adds: "We shall prove that it, as well as follicular enteritis, may give rise to typhoid symptoms, but in a smaller number of cases." Respecting the possible occurrence of all and each of the lesions of the digestive tube in fever, while, on the other hand, we must remember that they may exist without it, and it without them, we may adopt the language of a staunch disciple of the physiological school—Bouillaud. "Admitting," he says, "as individual and perfectly distinct inflammations, gastritis, duodenitis, enteritis of the small intestines, comprising jejunitis, and ileitis, enteritis of the large intestine, which may occupy either all the large intestine, or some portion of it only, nevertheless, the most exact observation compels us to acknowledge, that, in a great number of cases called typhoid fever, or affection, all these different phlegmasiæ, or only some of them, may exist simultaneously, and in different degrees, not ordinarily the same for each." Anxious to lay before the reader an impartial view of this great medical bone of contention, and to impress upon him the necessity for close observation in the cases which come under his own care, we shall quote a passage from the work of the distinguished Chomel, relating to the value to be attached to the pathological appearances of the stomach. "The characters of red coloration of the stomach, which persists after inflammation in the cadaver, have not been established in a manner sufficiently precise for us to pronounce on simple inspection, whether redness is of an inflammatory nature, or whether, on the contrary, it depends on other causes. The same remarks apply to the slate-color. We are obliged, then, to recur to the symptoms which for a few days preceded death, to decide upon the existence of gastritis." The same author, a sagacious physician, but a bitter opponent of the school, and we imagine a personal enemy, of Broussais, in another place remarks: "It seems, really, that an alteration which occurs so frequently, cannot be considered as accidental, and that those pathologists who have assigned so important a part to the stomach in the affection, which they call gastro-enteritis gravior, and which we call typhoid fever, had not committed so capital an error as it seems generally now to be conceded that they have. But researches made on a great number of bodies opened for some years past at the Clinique, show us the little importance of that alteration relatively to typhoid fever, for it is neither more frequent, nor more intense in this latter, than in most other diseases which cause death. Also, it comes on only during the last days of life, and cannot be considered as the lesion which provokes the development of the typhoid affection." "Lastly," he adds, "let us conclude from all these facts that the different pathological states of the stomach observed after death, either the injection, softening, slate color, or thickening of the mucous membrane in persons who have died of the typhoid affection, do not constantly manifest themselves by any symptoms which can cause them to be known, and that it is impossible to say during life, with any certainty, whether we shall find in the stomach any appreciable alteration, or what will be its nature."

Such are the facts which we desired to lay before the profession, relating to the disputed points in question, together with the sentiments of the leading authorities of the present day, on this important subject. Of their value it is for it to judge, and decide accordingly. The profession is popularly charged with disagreement, and the pages which precede, bear witness to the truth of the sarcasm. But, difference of opinion is usually associated with difference of education. All do not keep pace alike with the progress of science, either from a disinclination to study, or a lack of opportunity; and hence, in consultation, it must often happen that one will refuse to acknowledge as the received doctrine, that of which he is ignorant, and continue to assert opinions which his better informed colleague knows to be erroneous. The old cling with pertinacity to the views which they imbibed in their youth; they reluctantly accept the information attempted to be imparted to them by younger men, and are prone to consider it in the light of a scholastic innovation, of which time will refute the fallacy and procure the oblivion. The young, on the other hand, seduced by the specious pleading of some favorite teacher, and captivated by the apparent truth of a particular theory, assert it with zeal, as if it were incontrovertible; are ignorant of, or indifferent to, the objections by which it may have been assailed; and look with contempt or pity on antiquated theories, and the promptings of age, when founded solely upon the results of observation and experience. Feelings, too, far from honorable to their authors, mingle with, or excite controversy; truth is thus obscured and perverted, error is engendered, dissension is established, and the profession brought into disgrace by the unworthiness of its votaries. Of these, the love of notoriety on the one hand, and envy and a fondness for detraction, on the other, appear to be the chief; but prejudiced or inaccurate observation, hastiness of generalization, and a readiness for theorizing upon insufficient foundations, must not be omitted in the list of the causes of medical discrepancy. The only way in which this equality of knowledge, for the necessity of which, among medical men, we contend, can be obtained, is, carefully to chronicle conflicting opinions, to estimate the value of recorded facts and proposed theories, and to deduce thence some conclusion which may be universally known, acknowledged, and adopted. Thus, and thus only, it seems to us, can unseemly differences and discussions be avoided, which excite personal animosity, lower the professional character in the public eye, and lead to a doubt both of the knowledge of the practitioner and the value of the art. What contest of opinion would of necessity not result, if there stood at the bedside of a typhous patient three physicians, one of whom should have been nurtured in the theories of Cullen or of Brown, the other a staunch supporter of the doctrines of Broussais, and the third a rigid essentialist? It is from the diffusion of knowledge by means of *periodical* literature, which many read who read nothing else, that much is to be hoped for toward the attainment of this most desirable object. And if the consideration of fever be, as we believe it is, that which, as a matter of scientific investigation, possesses the *highest* interest, the attempt we are now making to disseminate the views of its nature, now most commonly entertained, and to establish its true character, cannot be without advantage. In medicine, as in law, it is indispensable that the jury be well informed on all sides of the question, before a verdict can be rendered; and when disputed points shall be made to undergo this judicial strictness of public investigation, the truth will oftenest appear, and a huge stride will be made toward the eradication of one of the greatest of the *opprobria medicorum.*

We come next, in our pyretological inquiries, to

PART II.—*Continued Fever in general and Typhus in particular.*

We hear continually in conversation, and we read in books, of typhus fever, typhoid fever, and of diseases presenting typhoid symptoms. What is the precise signification which is to be attached to each of these terms? *Typhoid* is evidently only the diminutive of typhus. Typhoid fever, then, must mean a fever less than typhus in the degree of its severity, though generally similar in its characters and nature, as varioloid is a mild form of variola—and not a distinct disease. Is then, what is called the typhoid fever, to say nothing now of its nature, a disease in which the symptoms present a less degree of intensity, and indicate a less severe degree of diseased action, than typhus? Generally, it is so; but it is not so always. The symptoms, then, of these two diseases are generally the same (varying always according to the local lesions which co-exist), except as to the degree of their intensity. Such, we believe, will appear to be the fact. The question which next arises is, whether there is any other difference. Waiving the consideration of this point for a moment, let us ask, what is the difference between typhus and typhoid *fevers*, used in the sense of milder degrees of the same disease, and other diseases in the course of which typhoid symptoms show themselves? The reply is, that in the latter, the typhoid symptoms supervene after a shorter or longer time, the disease having commenced with simple inflammatory symptoms; the criterion being, the order of the succession of the phenomena. But suppose it to be asked whether a case, in which, alone, the evidences of an acute cerebral or other inflammation should be discovered after death, every other viscus appearing healthy, the typhoid symptoms having appeared from the beginning, is one of typhoid inflammation, of typhus, or typhoid fever? For our own part, we should say that, unless there was anything instructive in the physiognomy of the case, and we do not well see why there should be, there is no difference between them. By the "physiognomy" of the case is meant that impression respecting its nature, as contrasted with others with which it might be confounded, which an experienced man receives from the appearance of the patient and the character of the symptoms, *i. e.*, the general aspect of the case, which he can neither convey to others nor describe to himself. It may be said that typhus fever in such a case is inflammation. Such is, in fact, just the ground assumed by Broussais; for to contend for the separate nature of typhus, is to essentialize the disease. The question would then be, is there, as Pinel says, essential typhus fever with inflammation, or as Broussais would have it, inflammation with typhoid symptoms? The case which we have proposed, is the intermediate of two others; the first, typhous fevers in which there are no inflammations; the last, typhous fevers in which the inflammatory symptoms supervene after a longer or shorter time. But what shall be said of a case of traumatic erysipelas, in which the patient becomes typhoid and dies? *He* had not typhus, of which the erysipelas or phlebitis was a secondary lesion. And again of variola, measles, and scarlatina; how do they become typhoid? Is there something in the cause which induces the eruption, that induces the typhoid symptoms? or are they somehow developed in the progress of the malady? Absorption of pus, which might be adduced to explain the fact as regards variola and phlebitis, does not apply to measles, the œdematous form of erysipelas, etc. Again, why do we not see typhoid symptoms accompany phthisis, in which Peyer's plates and the glands of Brunner are extensively ulcerated, or in the cholera infantum? Is there, then, *a something* which causes typhoid symptoms independently of inflammation? and if so, what is it? How do the inflammations become typhoid? Let us add, whence is the true typhus derived which results, in animals, from the injection into their veins of poisonous substances, or in the human species, from the use of putrid meat, a wound received in dissection or in skinning an over-driven ox, or the contagion of the glanders? In a word, what is the nature and the cause of typhus and typhoid fevers, the terms being used synonymously, as expressing only a difference of degree in the severity of the symptoms?

We have now before us two questions for consideration. The one has just been stated; the other is—Is there any other difference between typhus and typhoid fever, except what consists in the greater severity of the one than of the other?

In answer to the last of these inquiries, it is first to be established that there may be in cases of typhoid fever, used in the sense of ulceration of the intestines, or dothinenterite, symptoms of malignity equal in degree to those which can present themselves in cases of typhus occurring without this lesion. Of this any one may convince himself by an examination of the cases of fever attended with ulcerations of the bowels, reported by Tweedie and Southwood Smith; and similar instances might be selected from the writings of Andral, Chomel, Bouillaud, and Louis. Admitting, then, as we believe may be done, that such cases do occur, differing only in the fact of the peculiar anatomical lesion, the term *typhoid*, in the sense of a *diminution* of severity, is no longer applicable to all. Such cases, *if there be no other differences*, are cases of typhus. Before we proceed to consider this point, let us make a few quotations. "Is the typhus of camps, jails, &c.," asks Chomel, "the same as the typhoid affection? On this subject we have only the most vague and uncertain data, and it may be said that, on this point, medicine remains where it was twenty years ago. The most recent documents which we have on this subject, are too contradictory to give any fixed idea of the nature of the *lesion of the intestine* in typhus. Thus, notwithstanding all that has been said on the typhoid affection for some years past, its identity with typhus, *though probable*, is not yet certain." There is, in this passage, no contest as to the identity of the symptoms in the two diseases. Again, he says, "that he prefers to others, as a designation for the diseases described by authors under the names of severe continued fevers, be the form in which they show themselves what it may—inflammatory, bilious, mucous, adynamic, ataxic, slow, nervous, or other, all of which are only *varieties of the same disease*, the term 'typhoid' affection, or fever, *owing to the analogy which it offers in its symptoms* to the typhus of camps." The fevers enumerated above are, then, we perceive, only varieties of the same disease. They are all typhus fevers; varying in form, according to local circumstances. Let us particularly note this quotation from Bouillaud: "*There are cases in which typhous phenomena appear in persons attacked with fever, without, therefore, Peyer's plates being inflamed,* and then, the local symptoms, the idiopathic functional disturbances which characterize this phlegmasia, fail." This Louis calls "simulated typhoid affection." Now, what are these but cases of typhus? Christison, in speaking of dothinenterite, says, that "its symptomatic fever is peculiarly typhoid, *and undistinguishable by any essential character from the true primary typhus of British pathologists,*" in which, according to him, this ulcerated state of the intestinal glands is rarely met with. Andral observes, that "the disturbance which gives rise to the phenomena called adynamic or ataxic, or in other words, to the typhoid state, may be the result of several lesions, different in their nature and their seat." And again: "thus the ataxo-adynamic, or typhoid state, may be developed in consequence of a great number of affections widely differing from each other; it is a collection of symptoms identical as to their ultimate seat, but not as to their origin. Thus, symptoms, identical also as to their nature, differ only in their greater or less intensity, progress, and duration, according to the progress and duration of the affections, in *consequence of which* (?) the typhoid symptoms have been developed.* This is, we think, *all the difference* [a mere difference of intensity] between a typhoid fever which is developed in connection with phlebitis, for instance, and that which follows a dothinenterite." Again, speaking of inflammatory diseases which become typhoid, he says: "In all these cases we shall still find the different symptoms which the cases under the first article (typhoid fevers) presented us, and the aggregate of which constitutes the ataxic and adynamic fevers, such as Pinel has described them." Speaking of typhoid erysipelas, phlegmon, diseases of the urinary passages, hepatitis, variola, phlebitis, metritis, &c., he says: "these are not the typhoid fever of Chomel and Louis, but still the symptoms of this fever differently combined." And again: "In a word, there is scarcely any disease having its primary seat either in the solids or in the blood, in consequence of which we may not see typhoid fever sometimes developed, and much more frequently, simple typhoid phenomena, or under other forms, the different symptoms to which Pinel has given the names of ataxic or adynamic."

From the remarks which have preceded, we may safely, we think, lay it down as a fact, that typhus fever, of whatever kind, and with whatever lesions co-existing, and also when existing without appreciable morbid lesions, is, so far as symptoms are concerned, the same disease as the typhoid fever of Chomel and Louis; differing only as to the intensity of those symptoms, and in some particulars, as to duration, progress, &c., according to the particular lesions with which individual cases are attended. 2dly, That inflammatory diseases which become typhoid, can in no wise be distinguished from true typhus, including the "typhoid affection," except by the circumstances of their earlier stages. 3dly, That cases of local inflammation in which the typhoid symptoms exist from the very first period of their invasion, are only cases of typhus, with a local lesion; and, 4thly, That every ataxic or adynamic fever is but typhus; the symptoms being only differently combined, and the progress and duration varying according to the particular symptoms attendant on each; in other words, according to the local lesions which accompany them. We perfectly concur, then, with Andral in saying that "we must not retain the term typhoid fever," unless it shall hereafter appear that a particular affection deserves the name: and we further agree with him in saying that "we admit as a possible, but never as a necessary consequence, a typhoid state in a great number of diseases; that is to say, a state in which there appear some general symptoms, more or less similar to those which characterize typhus; evidences that the blood and nervous centres now participate in the disease."

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* This expression is incorrect, as will hereafter appear—it should be "in connection with which," &c.

Dothinenteritis.—Is it a disease sui generis? We have just observed, that unless it should hereafter appear that a particular affection should deserve the special name of *typhoid fever or affection*, that term should not be retained in nosology. The affection here alluded to is *Dothinenteritis*, or an inflammation of the muciparous glands (patches, agminated and isolated) of the small intestine, and chiefly of the ileum, in the progress of which these organs (Peyer's plates and Brunner's glands), enlarge, ulcerate, and slough; and, extending their ravages laterally to the intervening mucous membrane, come at length to form some of the vast ulcerations which constitute the most remarkable lesions met with in the autopsy of fevers. This name was affixed to the disease by Bretonneau, of Tours, who first, in any remarkable manner, called the attention of the profession to the subject in an elaborate treatise; although in the able work of Billard, so prematurely lost to the science which he adorned, on the Gast. Int. Muc. Memb., and which preceded that of Bretonneau, will be found a full account of these morbid appearances, and a distinct allusion to their connection with typhoid fever. We proceed to inquire whether this lesion, of which we readily admit the great frequency, is merely a complication, an occasional, incidental, and secondary affection, occurring during typhus fever, *or whether it be a disease per se*, and wholly different from that to which the name of typhus has long, in all countries, been appropriated. A typhoid inflammation merely, or one or other of these two, it must be; and in the latter event only, and then scarcely with propriety (since, as will hereafter appear, it is often identical as to its symptoms with typhus), can it be deserving of the separate generic appellation by which, of late, it has been designated.

In proceeding to the investigation of this question, let us first inquire whether, in all fevers characterized by typhoid symptoms, *this lesion is constant?* Louis and Cruveilhier affirm that it is; Chomel, Bouillaud, and Andral, all of whom describe the fever of France, deny that it is so. Dr. Gerhard, of Philadelphia, insists on the difference between the two diseases *in toto*. Christison and Tweedie, as also Roupell, dissent wholly from Louis and Cruveilhier, as to its constancy in the fevers of Britain. Before citing the first of these last named authors, we wish the reader particularly to remark that the description he has given of what he afterwards designates "the typhoid affection," applies, according to the title-page of his work, to "the disease known by the names of Gastro-enteritis, putrid or adynamic, ataxic or typhoid fever," and, of course, includes what is generally termed "typhus," so that as to symptoms, &c., he does not make any distinction between them, and the dothinenteritis, according to him, is not a separate disease, but is common to them all. In fact, he speaks, on the 119th page (Translation), of a case presenting the worst symptoms of typhus fever. "As," he says, "in all the cases where the patients died between the eighth and twelfth days, the first symptoms were connected with a lesion of the intestinal canal, we must conclude that the time at which the alteration of the elliptical plates of the ileum commenced, is the same as that of the disease, and we must not consider the lesion as one of the effects of the fever, *but that it forms the anatomical feature of it.*" He continues, "of all these lesions, one only was *constantly found*, viz., alteration of the elliptical plates of the ileum, to which may be added, a morbid change in the mesenteric glands. I have considered it as *inseparable from the disease we are now studying, and as absolutely forming its anatomical character.*" "I must conclude," he adds, "that the lesion of the elliptical plates began at the commencement of the disease, and that all the other lesions must be considered as merely accessory, or secondary." Again, "more or less severe lesions of the elliptical plates of the small intestine, were always found at the autopsy, which lesions were more serious according to the proximity of the patches to the ileo-cæcal valve, presenting remarkable differences according to the duration of the disease, and accompanied by analogous changes of the corresponding mesenteric glands. The other organs were frequently found diseased, but these lesions were not constant, and differed in some respects only from those observed in others who died of other acute diseases." Cruveilhier states that he found the abdominal complications so frequent in fevers, as to induce him to propose the term "intestinal," and asserts that "the follicular disease occurs under three forms: adynamic, inflammatory, and ataxic. Inflammatory complications may exist and give a particular character to the disease, but still the original primitive follicular disease exists and constitutes the most characteristic feature of the malady, which is *always* seated in the extremity of the small intestine, and chiefly about the ileo-cæcal valve."

Dr. Gerhard, of Philadelphia, says, that in fifty autopsies of typhus, there was but one, and in that one the diagnosis was doubtful, in which there existed the slightest deviation from the natural appearances of the glands of Peyer. In all the cases, these glands were remarkably healthy. "Thus," he says, "the triple lesion of the glands of Peyer, mesenteric glands, and spleen, constituting the anatomical character of the dothinenterite or typhoid affection, did not exist in the epidemic typhus of Philadelphia, in 1836. The two diseases are no more identical than pneumonia and pleurisy. The anatomical characters of these varieties of fever, continued, remittent, etc., are peculiar to themselves, and it is as impossible to substitute the lesion of the small intestines observed in dothinenterite, for the pathological appearances of typhus, as it is by treatment, or other means, to transform the eruption of measles into that of small-pox." He also establishes certain diagnostic differences between the diseases, into the accuracy of which, however, we shall not in this place inquire. We come next to the work of Chomel on the typhoid fever. "The anatomical lesions," he says, "which are observed in patients who die of the typhoid malady, are numerous and distinct, and may be referred to two very different groups. The first comprises those which are met with *almost constantly*" (the modification is deserving of note) "in this affection, and do not exist in any other. (?) They occupy particularly the intestinal follicles and mesenteric ganglia. The second group comprises the accidental lesions, such as inflammation of the mucous membrane and some parenchymatous organs; they do not belong to typhoid fever, for they are not found in all who die of it, and are met with every day in those who do not offer the symptoms of that malady. Thus, no observant physician, no man versed in the study of pathological anatomy, now-a-days, regards this malady as a gastro-enteritis, nor a gastritis." This is a reflection both upon Broussais and Bouillaud. "It is now as clear as the day, that it is not in the mucous membrane of the stomach or intestines, that the peculiar anatomical lesion resides, which is characteristic of the affection, but in the intestinal follicles, where it shows itself in forms which vary according to the period of the disease, but which, in each of its periods, has a special form and cannot be confounded with any other lesion. This fact, too evident to be contested, has induced several partisans of the doctrine called physiological, to designate this affection, no longer under the name of gastritis, nor that of gastro-enteritis, but under that of follicular enteritis. This was a mode of preserving something of the primary denomination, while they acknowledged that the disease, which is still called enteritis, is not an inflammation of the intestine itself, but only of the follicles which are scattered over it." On this over-nice distinction, we shall hereafter have something to say. "Follicular inflammation," continues M. Chomel, "is so frequent, that in four years not a single exception was met with. But Louis and Andral show cases in which during life *the symptoms had been exactly those which are observed in the typhoid malady, yet in which were none of the alterations proper to this malady*, nor did any exist to which the symptoms that appeared could be referred." Andral observes: "But in some of these cases only, we shall see these fevers present the same course, the same duration, *the same connection of marked phenomena* as those which are connected with the special inflammation of the follicles. They will be typhoid fevers, in the sense which M. Louis has attached to the term. They are, no doubt, rare exceptions, and it remains no less true that the typhoid fevers, such as M. Louis has described them, coincide *almost always* with an affection of Peyer's glands; but these exceptions, of which Louis has himself published cases, it is important to notice. "We see from this quotation, that the similarity of the symptoms of typhus fevers with those of dothinenterite is asserted, in cases in which, however, the latter did not exist; and to make the case still stronger, Andral says of one of his cases, "all the symptoms observed in this individual are those observed in persons suffering from dothinenteritis, but no trace of an affection of the mucous follicles existed. Nothing but an erythema of different portions of the gastro-intestinal mucous membrane." Of this, we have ourselves seen a precisely similar example. Andral continues: "In persons who die with *one or other* of the morbid groups called *essential fevers*, some present no appreciable lesions of the small intestines; in others, we find lesions similar to those met with in other acute diseases. But, in the greater number, the small intestine presents a peculiar lesion, which in its acute form is almost exclusively confined to what are called essential fevers." Here again we observe that the follicular enteritis is ranked as an essential fever, and that all essential fevers are regarded as generally identical. "Follicular enteritis then," he says lastly, "appears to us to be the commencement of a very great number of what are called essential fevers, and *particularly* of that which Chomel and Louis called typhoid fever. *This latter affection may, however, present itself in cases where the intestinal follicles are not diseased.*" We have already, by the quotation from the title-page of Louis's work, pointed out that he considers his typhoid affection, and the other forms of ataxic or adynamic fevers (typhus), as identical and synonymous. In fairness, we ought to introduce here a citation from Chomel, which we find we have omitted. "But," says he, "after having lessened the importance of the follicular lesion in typhoid fever, we must repeat how great is its value as a characteristic lesion of the disease, and also repeat, *that if not strictly constant*, it is extremely rare to find it wholly wanting, and that there exists not a single authentic instance of this lesion, in a subject who had *not* offered the symptoms of typhoid fever." This assertion we shall presently show to be erroneous. We come now to the British authorities. Dr. Stokes (Dublin Journal Medical Sciences, March, 1839) observes: "I consider typhus fever as *an essential disease*, not symptomatic of any known local lesion." "There can be no doubt that the typhus of Great Britain and Ireland, is a disease of the whole system, *not symptomatic of any particular* local lesion, &c., capable of destroying life *with* various lesions, or without any appreciable change in the solids." "With respect to the local lesions, I consider them as much secondary to the general disease, as the pustule in small pox is to the disease variola. Their not unfrequent absence in the worst cases of the disease, proves that *they are not the cause of typhus*, while in cases where they do occur, we observe a signal want of proportion between their amount and the severity of the symptoms. They are, *in the fullest sense, inconstant in their seat and extent*, *incompetent to the explanation of the symptoms*, and unnecessary to the characteristic phenomena of the disease." He adds that there undoubtedly exists a much greater disposition to intestinal ulcerations in the fevers of Paris and other situations on the continent; but that had Broussais examined the typhus of Great Britain and Ireland, he would never have formed his theory of fever. Respecting the opinion of Dr. Lombard, of Geneva, that the typhus fever of Ireland is a peculiar affection, differing from that of the continent in the absence of ulcerations, (an opinion in which Louis is disposed to participate,) he says: "the fact is, that intestinal ulcerations have been repeatedly observed in the typhus of Ireland, their amount and frequency varying with the epidemic influence." In the epidemic of 1826 and '27, "the whole group of vital and cadaveric phenomena, corresponded almost exactly with the dothinenteritic typhus of the French authors." "Since then, no severe or decided epidemic of fever has occurred; but cases of typhus are to be met with, with *or without* this peculiar lesion. The researches of Bright and others, in London, and of Staberoh in Glasgow, show the same. And "we cannot then found any general distinction of British and continental fevers on this circumstance; *the difference is in the degree of liability*." Dr. Stokes's first case is headed, "Petechial typhus fever, *with extreme prostration*—Death. *Absence of organic lesion* (of any kind, in any part of the body)." Similar views are promulgated by Dr. Graves, of Dublin, in his System of Clinical Medicine, recently published. Christison, whom we have previously quoted as saying that the typhoid affection of Louis is undistinguishable, by any essential character, from the true primary typhus of British pathologists, states that they and "practitioners extensively conversant with the features of typhus, invariably consider that enlargement of tho glands of Peyer, is a rare, and in many parts of Britain, a very rare occurrence. In the infirmary of Edinburgh, it has been constantly and diligently looked for during the last sixteen years, in several epidemics, yet it is found only often enough to make the pathologist acquainted with its phenomena, and keep him in mind of its existence." "It seems reasonable to conclude," continues Dr. C., "that the signs of structural derangement, ascribed by M. Louis to typhoid fever generally, are most of them peculiar pathological states, secondary, not to fever in general, but to one of its secondary disorders, dothinenterite." "We have traced," says Dr. Tweedie, "the progress of typhus fever to its fatal termination, and on the most minute examination, have been unable to discover the follicular disease which Louis and Cruveilhier state to be so constantly its cause; while, per contra, we have met with follicular enteritis in individuals whose symptoms had no resemblance to those of typhus fever." This statement will be observed to contradict the assertion recently quoted from Chomel. And here it is particularly to be noted, that none of these authors, in objecting to the views of Louis, have attempted to palliate the discrepancy by any reference to a difference of symptoms, these having appeared to them in all cases the same. The only person who has attempted such a distinction as a ground of diagnosis, is Dr. Gerhard, of Philadelphia, whose authority, great as it is, cannot be considered as outweighing that of Christison, Tweedie, Chomel, Andral, and even that of Louis himself (who tells us that one of his cases presented the very worst symptoms of typhus), who all acknowledge a perfect identity in the symptoms of essential fevers, with whatever lesions they may be complicated. Upon this point we have the express authority of Chomel, who says, that "we are to conclude from the facts related, that the varieties of the anatomical lesion of the follicles and ganglia, *do not disclose themselves to us by any particular phenomena*, and that all the symptoms, except perhaps the diarrhœa, the abdominal pain, and the gurgling, are the expression of the influence of the disease upon the entire economy, of the disorders which it induces in the principal functions, and belong rather to the disease itself, than are the effects of the lesions of the follicles. It would be easy to show that each of the symptoms particularized as diagnostic by Chomel, is wanting in certain cases. Dr. Gerhard's emphatic assertion, that typhus and the typhoid fever of Louis are no more identical than pneumonia and pleurisy, cannot then so easily be acknowledged to be correct, and we are not a little surprised that so able a physician should say, after a detail of fifty cases of fever, in which *no* alteration of Peyer's glands was found, that the fever *constantly* met with in the United States is identical with that of Paris, but not of London. If intestinal ulceration necessarily constitutes the "typhoid affection," then many cases of that disease are met with in Great Britain. There is, then, no generic "fever of London" with which a generic "fever of Paris" is to be contrasted. But of this anon.

Dr. Roupell, in his very able and useful, though concise treatise, asserts his conviction of the identity of the disease, called by Louis the "typhoid fever," with that which Hildenbrand has designated as typhus. We find in it, he says, all the leading indications. This "typhus" of Hildenbrand, he considers, be it observed, as identical with the typhus fevers he was in the habit of seeing as epidemic in London. And he further adds, in speaking of the fever described by Louis and Chomel, and that of Hildenbrand and his own observation—"the impression on my mind, arising from the correspondence between the leading features, as already detailed, is, *that the two fevers are identical.*" "M. Chomel," he says, "makes two varieties, typhus and the typhoid malady: the latter, he says, lasts longer than typhus, and the rash appears on the fourth, and in the other, not until the eighth day. These, surely, *are the same disease*, varied only by circumstances." In the article "Fever," in the Dict. de Medecine, Littré thus expresses himself: "I have said that often fevers produce their terrible effects, with a very slight lesion: I might go further, and say that the lesion itself is sometimes wanting, while, nevertheless, the symptoms preserve at once their gravity and their special physiognomy. It is an established fact that there are typhoid fevers *without intestinal lesion*, or with one that is very slight; we must, then, admit that the nature and intensity of fever *does not reside in the local lesion:* that this lesion is an important and characteristic manifestation when it exists, but *it is not essential*." "An opinion," says Dr. Alison, certainly one of the most philosophical writers of the day, "has lately become rather prevalent, that there are two kinds of fever, to which the names of typhus and of typhoid fever have been given, of which the first is usually unconnected with any affection of the mucous membrane, is attended with the eruption, and is more contagious; the latter is necessarily connected with inflammation going to ulceration of the mucous membrane, *is unattended with eruption*, is more protracted and has *little contagious property*. This term, typhoid fever, is to be regarded as synonymous with *gastro-enterite* and with dothinenterite. If it be understood that the intestinal inflammation in this last case is of *specific* character, this doctrine can have no injurious practical results; but it is certain that some cases resulting from the contagion of the usual spotted typhus show all the symptoms and post-mortem appearances attributed to the typhoid fever; and, therefore, it seems most probable that the differences observed are only varieties depending on constitution and on the agency of other causes affecting the constitution, besides the exciting cause of the disease." The first two lines of this extract, which we have placed in italics, respecting the absence of eruption in, and slight contagiousness of, typhoid fever, are, with deference to the accomplished author, inaccurate; the former entirely incorrect. (p. 446.) In another place (p. 403, Outlines of Path. and Practice of Med.) we find him stating, "that all the continued fevers of this climate must be regarded as fundamentally the same disease." Again, he asserts, p. 406, "the occasional entire absence, after fatal fever, of any appearances which can strictly be called morbid; a rare case, but admitted by the most accurate morbid anatomists as an unequivocal result of their inquiries."

The last author whom we shall cite, is Cruveilhier. "We cannot," he says, in his splendid work on Pathology, "without making the sacrifice of the seat of the disease, and of the lesion which essentially constitutes it, preserve the denominations, inflammatory fever or non-putrid synochus, adynamic, ataxic, *typhoid* fever, *to designate follicular enteritis*, for there are inflammatory, adynamic and ataxic fevers which are pneumonic, pleuritic," &c. Elsewhere he acknowledges that "if the typhoid form is common to all the painless inflammations, it may be said that *none presents it in a higher degree than acute follicular enteritis*." He then adds, that "the ataxic form is not less frequent than the typhoid," and continues: "How can we refer symptoms so serious as those which we have now enumerated to a lesion of the intestinal canal so circumscribed. Is it not more probable that these symptoms depend upon a cause acting on the entire of the economy. This local malady (dothinenterite) is perhaps only an eruption analogous to the labial or cutaneous eruptions, a sort of crisis, which, salutary if it had been carried to the skin, becomes fatal because it is directed upon an organ essential to life. In the eruptive diseases, certainly, it is not the eruption which governs the fever, but the fever which governs the eruption: it would be absurd to say that the morbillous or variolous fever is symptomatic of an eruption which does not yet exist! These remarks apply exactly to acute follicular enteritis. The fever precedes the inflammation twenty-four or forty-eight hours, or even three days. The fever persists and augments all the time that the local mischief increases, which is *not the cause of the fever*, but which is its measure." "As soon," he adds, in another part of his essay, "as it was established that the fevers called putrid or adynamic, malignant or ataxic, almost always left after them the lesion (follicular enteritis) which we have described, this question necessarily arose: Is this lesion the point of departure of all the symptoms? is it, in a word, a crisis? does it govern the disease, or is it governed by it?" The answer to this query, though not directly expressed, may be gleaned from the passage previously quoted. To the same effect, we find the learned Copland, in his Dictionary, asserting that "instead of receiving dothinenteritis as intimately connected with the nature of typhus fevers, I consider it only as one of several changes superinduced in the progress of the disease, but one of the most constant and important; its symptoms inseparable from the typhoid states of fever and the expression of the disease on the whole economy, rather than on this part of it in particular." (Part. III., p. 913, par. 91, A. Fever, Path. of.)

We think it must be allowed to follow from what has now been said, that the lesion of Peyer's glands is, though very frequent, and evidently much more so in the fevers of France and of our own country, than of Great Britain, *not* constant in what is called the typhoid fever, or affection; that when present it does not always so modify the disease as to render it distinct, sometimes even from the very worst forms of typhus, nor to enable us to distinguish them always by their outward appearances, and consequently that it cannot be considered as a distinct disease. If so, it can only be viewed as one of the many forms of organic alteration which are met with in fever generally; whether as a primary, or secondary lesion, we shall presently inquire. To similar conclusions we find that Dr. Hale has come, in his Remarks on the Pathology of the Typhoid Fever of New England. (Boston, 1839.) While, with Dr. Jackson, he asserts that in every case the lesions in this fever are identical with those described by Louis, he does not think that in the present state of our knowledge, at least, the fever called typhoid or dothinenterite, can always be distinguished, during life, from that designated typhus. And in the Review from which we copy this statement, it is said that Dr. Lombard, of Geneva, and other observers, who were familiar with the typhoid fever of Paris, were much astonished at finding in England cases which appeared to them genuine typhoid fever, but which showed none of the pathological appearances they had so confidently expected: so much so, that Dr. Lombard, under the first impulse, abandoned the opinion formed upon six years' investigation, and concluded that typhus fever was a general disease affecting the whole constitution, rather than a malady depending on any local inflammation or change of structure. And Dr. Hale himself thinks, that whereas the lesion is many times so slight as not to explain the phenomena and fatal result, it is rational to consider it as an effect. like the general disturbance of the system, of some cause at present unknown. (Am. Journ. Med. Sc., 1840.) The wisdom of Andral's conclusions on this, as on every subject of which he treats, will appear from the following extract: "All cases of follicular enteritis are not accompanied by stupor, or the different phenomena of typhus (ataxic or adynamic) fever: all do not resemble typhus; they are sometimes merely inflammatory, bilious, or mucous fevers; to use, for a moment, the language of Pinel, and hence, although we may, no doubt, as M. Louis has done, reserve the term typhoid fever, or affection, for the morbid state which proceeds along with the affection of Peyer's glands, such a distinction is nevertheless purely arbitrary."

We have now endeavored to show that there exists between typhus and the typhoid fever, or affection, or dothinenteritis, no essential difference in symptoms; that all ataxo-adynamic fevers are either typhus or typhoid, as we may please to designate them, which is equally the view taken by all the writers we have cited; that dothinenteritis is not a constant lesion; that it is attended with other co-existing lesions, and that they may exist without it; that, to use the words of Andral, the small intestine may present *no sort of marked lesion* after different kinds of fever; and that all the shades of vascular injection which have been met with in the lesions of the intestinal mucous membrane, are met with in the diseases in question, and are sometimes, though rarely, alone observable.

We are now prepared to pass to the second part of our inquiry, and ask, what is the nature and the cause of fever?

(*To be continued in our next.*)

Art. IV.—*Remarks on a peculiar form of Paralysis.* By William P. Buel, M. D., of New York,

I have met, principally in dispensary practice, with a form of Paralysis I do not recollect to have seen described in books. It affects the nerves and muscles of the fore arm, the hand, the thumb, and the fingers; producing loss of muscular power, and loss of sensation, partial or complete, from the bend of the elbow to the tips of the fingers. From the fact that when the arm is extended and leaned in the direction of pronation, the hand drops powerlessly down, with an utter inability to extend it, the affection has been called the "drop hand."

The muscles and integuments of the fore arm, hand, and fingers, receive their supply of nervous influence from two nerves—the radial and the ulnar. The radial nerve, after emerging from the bend of the arm, gives off branches to the pronator teres, flexor radialis, palmaris longus, to the flexors of the thumb and fingers, and to the pronator quadratus. Passing with the tendons of the flexor muscles under the ligament of the wrist, it gives off five branches, which are distributed to the adductor muscles of the thumb, and to the radial side of each of the fingers.

The ulnar nerve, after passing the condyle of the humerus, goes down in connection with the ulnar artery to the wrist, where it divides into two branches; one of which, the main branch, passes into the palm of the hand, while the other getting on to the back of the hand, branches over the tendons, and is finally distributed to the back of the little and ring fingers. The other branch, passing under the palmar aponeurosis, is distributed on the ulnar edge of the hand, the outer edge of the little finger, and the sides of the little and ring fingers.

This brief account of the nervous distribution will enable us better to understand the phenomena which occur in the subjects of this affection.

The motions of the fore arm upon the arm, depending entirely upon muscles seated above the elbow, are not impaired. The muscles which move the hand, the fingers, and the thumb, and which communicate the various motions of flexion and extension, pronation and supination, abduction and adduction, are paralysed, in some cases partially; in other cases, the paralysis is complete. The hand, as already observed, drops helplessly when the fore arm is extended and turned in the direction of pronation. The power of grasping between the thumb and fingers is, in many cases, entirely lost; as also that of closing the fingers upon the palm. As in other cases of paralysis, the flexors predominate over the antagonist muscles of extension, and the fingers are in a state of some flexion.

The loss of sensation, somewhat enfeebled at the upper part of the fore arm, is increasingly so as we pass downwards, until we reach the fingers, where it is often complete. The ulnar nerve from its being exposed at the point where it passes round the condyle of the humerus, being more subject to the cause of the affection than the radial, those parts of the fore arm and hand receiving their nervous supply from it, are generally most affected, sometimes exclusively so. One branch of the ulnar nerve, as already mentioned, being distributed over the back of the hand, to its ulnar edge, and to the little and ring fingers, the loss of sensation in these parts is complete, being numb and powerless; while the middle and forefingers and the thumb, retain the power of motion and sensation.

The cause of the affection appears, in all the cases I have met with, to be one and the same; viz., the long continued pressure of the weight of the body upon the nerves of the fore arm in sleep. The subjects of these affections tell you they went to bed at night as well as usual; and when they awoke in the morning, they found the fore arm and hand numb and powerless in the manner already described. They had no doubt gone to sleep with the fore arm under the body, and remaining in that condition for several hours, paralysis, the usual consequence of continued pressure upon nerves, is the result. Those cases I have met with, occurred in hard-working people, whose slumbers after the labors of the day are dead and heavy. In several instances, I suspected that some extra narcotism had been produced by libations of beer and spirits.

Treatment. When I first met with these cases, I treated them by stimulating frictions along the track of the nerves, and repeated blisters on the palmar surface of the fore-arm. This treatment was entirely unsuccessful. I then thought of applying moxas, and this method was attended with complete success. The first case I met was treated with stimulating liniments and blisters for two or three weeks, without the slightest improvement, the hand and fingers remaining perfectly powerless. I then applied a single moxa on the facial surface of the fore arm, and in a week the improvement was obvious. I was obliged, however, to apply a second or third moxa, before the cure was complete. Since that time I have treated four or five cases, applying in every instance from two to three moxas up and down the palmar surface of the fore arm; and the cure is generally completed in from three to four weeks.

Finding this method so successful, I have tried no other. I have been told that in the New York Hospital, electro-puncture has been used successfully in this affection; but I have not had the opportunity of trying it.

The form of moxa which I have used, is that of small bits of gum camphor. This form, as it is always at hand, is rapid in its application, and produces as little pain as any method of applying the actual cautery to the human flesh, I prefer, as well in this case, as in others where the remedy is advisable.

[From the striking analogy of the cases above detailed to certain symptoms resulting from exposure to some of the preparations of lead, we addressed a note to Dr. Buel, suggesting a further inquiry; and to this, the following reply was made. Editor.]

Dear Doctor,—In the note you were kind enough to send me this morning, you remark, "there is a peculiar affection, arising from exposure to the effects of lead, called by the workmen the *wrist drop*, which bears a marked resemblance to the 'peculiar form of paralysis' that you describe." "Some years ago," you continue, "cases of obstinate constipation of the bowels, accompanied occasionally by paralysis of the hand and fore arm, occurred so frequently among the soldiers of the United States army, from the use of white lead in cleaning their belts and gloves, that it became necessary to interdict its further use by a general order, which, at the same time, substituted pipe clay." "I have thought it," you add, "worth while to suggest the inquiry, whether the cases you refer to might not have a similar origin."

Thanking you for your kindness in making the suggestion, I would observe in reply, that when I first met with the cases described in my communication, I was myself forcibly struck with their analogy with certain affections produced by exposure to the effects of lead; and immediately directed my inquiries to ascertain whether they had not the same origin. I could not, however, ascertain that there had been in any such instance, any exposure to the effects of lead. Aware of the fact that beer and cider drawn through leaden pipes, have sometimes produced the peculiar symptoms following the introduction of lead into the system, I was suspicious that these cases might have been thus produced. Further inquiry, however, did not confirm my suspicions, but satisfied me that they were unfounded.

The affection I have described, differs from that which you refer to, in one very important particular. "Some years ago," you remark, "cases of *obstinate constipation of the bowels, accompanied occasionally by paralysis of the hand and fore arm*, occurred," &c. In these cases, and in all similar ones, arising from lead, the constipation of the bowels is the marked and prominent symptom to which the attention of the practitioner would primarily be directed. The cases I have described, were unattended with constipation, or indeed with any other disturbance in the general functions of the system. The patients, I believe, in every instance, declared themselves to be in their usual health, with the exception of the paralysis of the hand and fore arm.

The sudden access of the paralysis in my cases, differs from what might be expected from the gradual introduction of lead into the system in the manner you mention. In these cases, in every instance, the patients retired to rest in their usual health; they waked with the fore-arm and hand paralysed. I think then it is fairly to be inferred, that these cases were not the effect of lead.

1st. Because, on diligent inquiry, I could not ascertain that there had been any exposure to lead in any shape or form.

2dly. Because the affection was unaccompanied by constipation of the bowels.

3dly. Because the attack was sudden, and not gradual, as we should expect from the gradual introduction of lead into the system.

4thly. Because in all the instances, the affection was removed by the application of a remedy purely local; a result certainly not to be expected, supposing it to have been produced by a cause operating on the whole system, as the poison of lead.

Since my communication was sent in, I have seen two other cases. They differed in no respect from the cases therein described. Both were treated by the application of camphor moxas to the palmar surface of the fore-arm. The first was a strong, healthy Irishman, perfectly well in all other respects. At the end of a week from the application of the moxas, he returned without much improvement, and rather vexed at finding that his arm was no better than before, and that he had got in addition three sores upon it. At the end of the second week, the improvement was decided; and in another week the restoration was complete.

The second case was a woman of very intemperate habits. She returned at the end of the week with, as usual, but little improvement in that space of time. I have not seen her since; but I am confident, from the result in other cases, that she is cured.

Very truly yours, W. P. Buel.

Samuel Forry, M. D.

Art. V.—*Further Thoughts on the Hypotheses of the School of Chemico-Physiology.* By Charles Caldwell, M.D., Professor of the Institutes of Medicine and Medical Jurisprudence, Louisville, Kentucky.

No. I.*

When my Critique on the "Animal Chemistry" of Professor Liebig was closed, I did not foresee that I should deem it my duty, so far to return to the same subject, as to offer any additional remarks on the writings of

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[* In view of the general tone of this article, we should perhaps hesitate in laying it before our readers, were it written by any other person; but as the distinguished author, in his *"Physiology vindicated, in a Critique on Liebig's Animal Chemistry,"* noticed in our first number, has already combated most successfully many of the errors of Liebig, we are disposed to allow him this privilege, regarding him as one speaking by authority. It shall always be our endeavor to maintain our pages free from all personalities in the discussion of scientific subjects; and in the particular case of Professor Liebig, whose remoteness forbids the idea of his defending himself, the claim is the more imperative. We are an admirer of Professor Liebig's writings, save his physiology and pathology.—Editor.]

that author. Nor, as relates immediately to the volume referred to, is it my intention to do so. A measure to that effect might well be accounted superfluous at least, if not illiberal and unmanly. It would too much resemble the ungenerous act of mercilessly treading on a fallen opponent—a step repulsive to manhood and magnanimity.

As respects the vaunted but crude pretension of "Animal Chemistry" to create a "new and improved era in physiology," or to advance, to the slightest extent, the condition and interest of that science, in its true character, I have fearlessly predicted its failure and overthrow. And already is that prediction (visionary and hazardous as many persons pronounced it), if not *actually*, yet *virtually* fulfilled.

I verily believe that there is not now, on this side of the Atlantic, a single physiologist of high standing, or at all *respectable* in his standing, and thoroughly acquainted with the notions maintained in Animal Chemistry, who will assert that physiology has received from them a shadow of improvement. I mean physiology in the true and accepted definition of the term—the science of living organized matter, including the principles and causes of its organization and action.

In the United States at least, if not, in like manner, in other portions of the world, FIRST IMPRESSIONS formed the lofty and wide-spread, but mushroom reputation of Animal Chemistry; and while its novelties were fresh, and but slightly, if at all, tested by reason and analysis, or by any other sort of competent ordeal, the same impressions continued to support it. But, by the influence of "sober second thoughts," hastily-formed and crude partialities have been dissipated; and the reputation erected on them, already shaken to its foundation, is destined to be shortly reduced to a ruin. So strong is my confidence in the fulfilment of this prediction, that I venture further to predict, that, a few years hence, when truth on the subject shall have been more fully unfolded, should the towering reputation which Animal Chemistry has enjoyed be at all remembered, the fact will be regarded as an object of wonder, reflecting but little credit on the physiological judgment and discrimination of the present day; and assuredly so on the judgment of those who have been most zealous in their encomiums on the work, and loudest in their hosannas to it.

Let it be distinctly understood, that I do not claim as exclusively my own, the death-blow inflicted on the standing and influence of Animal Chemistry. Far from it. On the minds of the few who have listened to my lectures, and read with attention my Critique on the subject, it is not, perhaps, presumptuous in me to believe that my labors have not been altogether inoperative and useless. Such, at least, is the impression made on me by public review notices, private letters, and verbal remarks. Men of high and well cultivated intellects, who have opened my Critique with doubts, and even disbelief of the soundness of its contents, have closed it under a conviction that all the leading notions of Liebig, contested in it, are discredited and overthrown.

My labors, in vindication of physiology, though far from being performed by the arm of Hercules, were honestly intended to aid in clearing that science from the Augean abominations of misplaced chemistry, and humoral philosophism; and I repeat, that I have reason not only to hope, but firmly to believe, that they will more or less conduce to that salutary end. But other causes, not easily resisted, have been in active operation to the same purpose.

To compare great events with small ones, by way of illustration. We are told, I believe truly, by statesmen and historians, that the Roman empire fell by its own weight and its enervating luxuries; and, with equal truth may it be asserted by physiologists and philosophers, that Liebig's Animal Chemistry has been borne down and crushed by the insupportable mass of its own errors and matchless absurdities. Correctly, therefore, may I add, that, had no enemy assailed it, it would have sunk apoplectic, under its plethora of incongruities.

In my defence of physiology against the adulterating influence of Animal Chemistry, I stated sundry reasons for the groundless and almost boundless popularity of that production. And they were all alike factitious and evanescent. With neither nature nor sound reason had they any connection. To two more, of the same description, I shall now refer, premising this special remark, that they have perhaps contributed more to the popularity of the work in the United States, than either or all the causes cited in my Critique. In foreign countries they have little or no influence, Great Britain excepted, where one of them operates to no small extent.

The first of these causes is, that Animal Chemistry was issued from the press, virtually under the patronage and authority of "The British Association for the Advancement of Science." And that this consideration, in the scale of its popularity on this side of the Atlantic, had great weight, will not be questioned by any one acquainted with the condition of the American mind, and the habitual and humiliating propensity we have to overrate and overpraise foreigners, in comparison with our own countrymen, in literature and science, as well as in other manifestations of judgment and taste. Nor is it denied that, in cases like the present, the commendation of the British Association, whether in action or words, deserves to have some weight; but concessions of the kind may be carried so far as to sanction and fortify error, and to amount to an acknowledgment of mastery on one side, and inferiority on the other. And, in literary and scientific concerns, a condition of things, too much of this description, exists between the people of the United States, and those of the enlightened nations of Europe generally, but very especially of the British Isles. Instead of looking *at* those people, as if they were on a level with ourselves, we are inclined to look *up to* them, as if they were above us. Nor is this all that may be correctly alleged, in the case before us.

As respects the subject I am considering, the patronage and favoring decision of the British Association are not of a value altogether peerless, nor even so high as is too generally imagined. It deserves to be here made known and recorded that, on account of the popular nature of its constitution, and the consequent facility of admission into it, with but little discrimination as to the intellect or the information of applicants, that body is composed of elements as dissimilar and non-concordant, as can well be brought together, and much more so than can be always rendered harmonious and satisfactory in their action. On the individual who contemplates its operations through the metamorphosing mist and mirage of distance, it is much better calculated to produce an imposing and authoritative impression, than on him who enters it, passes a few days in the midst of it, and impartially examines it and judges of it *as it is*.

Of the members who compose the British Association, the *few* only are at all extraordinary and distinguished, in either talents or attainments; the *mass* being, like all other masses, of *ordinary* standing, and not a few, perhaps, of those who are ingredients in the incongruous compound even *below the ordinary level.* From a source so exceedingly heterogeneous and opposite in its component parts, no pure and self-consistent issue can be reasonably expected. Certainly such an issue cannot be *always*, nor in a *majority* of cases, attained.

In the transaction of all sorts of business, scientific as well as common, each member speaks, judges, and votes for himself. In their decisions, therefore, the ordinary members exercise far the most influence, because they are greatly superior in number. True, committees composed of respectable members usually report on all important papers, measures, and movements; but the masses confirm or reject such reports or modify them at option.

In a word, though in mathematics, astronomy, geology, and most of the other branches of pure *physical* science, the authority of the "British Association" is deservedly weighty, yet, as respects animal chemistry, the case is widely and essentially different. From naught that I discovered in that body in 1841, when honored with a seat in its meeting at Plymouth, do I feel justified in regarding, with any marked respect, its authority in relation to the merit of Professor Liebig's work. I doubt exceedingly whether *one member in twenty*, or perhaps even *in fifty*, of that division of the Association to which Animal Chemistry belongs, had ever spent a week, a day, or an hour, in a serious and thorough examination of that gentleman's "Report" on the subject. As far as I am informed, every chemist in the Association, of any respectability, had been a chemico-physiologist long before the Report was read to that body. Hence the partiality and insufficiency of all testimony derived from such a source.

The second reason for the undeserved popularity of Animal Chemistry is one which, as an American, I blush to record. *The work is the production of a foreigner*—a circumstance which, irrespective of merit or any other valuable consideration, strongly recommends it to too many of our countrymen. The reason is plain. *As regards literature and science,* we have not yet, as a people, learnt to know, respect, and appreciate, ourselves. A *colonial*, not to call it a *servile spirit*, accompanied by a virtual acknowledgment of inferiority, so thoroughly pervades and actuates us, that we continue, as we did, in our *provincial condition*, before the swords of our gallant fathers had severed the chains and shackles that enthralled us, to regard Europeans as bearing toward us still, the relation of instructors at least, if not of masters. Deny this, *in words*, as we may, our *actions* testify abundantly to its truth. The result is obvious and humiliatingly discreditable to us. We too often receive their mere *dicta* with the acquiescence and observance which would be due to them only were they delivered to us in the character of oracular responses.

Had "Animal Chemistry," replete as it is with errors and blunders, false reasoning, misrepresentations and gross absurdities, been written by a native citizen of the United States, not only would it have fallen dead from the press, but it would have overwhelmed its author in endless disrepute.

Had the journals of the country, under such circumstances, condescended to notice it at all, it would only have been that they might condemn the whole and treat many parts of it with consuming derision.

Under this head of my subject I shall only add, that as long as we shall tolerate among us this unmanly sentiment of literary and scientific nonage, the Europeans will regard us as a nation of underlings; and they will be justifiable in the measure. He who fails to respect and venerate himself, excites, by a law of our nature, the pity and scorn, or both united, of those who behold him.

But from this degradation we can promptly emerge. A single act of the mind can commence the change, and a few additional ones will complete it. To become actually equal to the *savans* of Europe, we need only *think* ourselves equal to them. The thought will engender the resolution to become so, and the resolution will accomplish the work. No man knows the power of the human will over human destiny—even the destiny of nations, until he has learnt it by firm and persevering trial, and the experience which such trial produces.

In my Critique on the Animal Chemistry of Professor Liebig, I passed no strictures, nor made remarks of any sort, on his "Chemistry applied to Agriculture and Physiology." The reason was, that I had not then acquired an acquaintance with that production sufficiently thorough and accurate to justify me, to myself, in an attempt to form a judgment of it. I acquiesced, moreover, too implicitly in the judgment of others. At present, however, the case is different. The errors and extravagances of Animal Chemistry awakened my suspicions. I have recently, therefore, examined the other work of the Professor with the attention it merits; and I feel authorized to say, that the faultiness of certain portions of it is not only striking, but it is extreme, even in the midst of the faults of its author. The portion of the work, however, by which it is my purpose to substantiate this charge, is, in extent, comparatively inconsiderable. It is that which contains the Professor's descant on "poisons, contagions, and miasms."—Part II., chap. xiii., extending from p. 373 to p. 415.

It is not to be understood that the pages just indicated constitute the only portion of the volume about to be examined, which I consider exceptionable. Far otherwise. Those pages alone contain the matter which I mean to analyse. But the book is exceptionable, deeply exceptionable in every paragraph where it pretends to an exposition of vegetable physiology, whether healthy or morbid. For the principles and laws of the physiology of vegetables and animals are the same. As often, therefore, as the Professor attempts an analysis or explanation of them, he manifests his utter incompetency to the task—his ignorance of the subject being the cause of his failure.

Of Professor Liebig's application of chemistry to agriculture, including his views respecting the food of plants, the improvement, changes, and cultivation of soils, and the fitnesses of given sorts of soil for the production of corresponding sorts of vegetables—respecting these several points and others of a similar description, I shall say but little, because I know but little. I have reason, however, to believe, from information communicated to me, that the portion of his work, here referred to, is highly valuable. But further information from the same sources, induces me to doubt whether the matter be all *original* with the Professor, or whether much of it was not derived from the skilful agriculturists of Germany, France, and Italy; to whom I am told it has been familiarly known, and carried by them into practice, perhaps for ages. In truth, I consider it impossible for Professor Liebig, confined, as he must have been, since his boyhood, to his closet and his laboratory, to be thoroughly versed in the practice of agriculture. Nor do I make these remarks in any spirit of disparagement toward the work I am examining. My only design is to make it appear, that, instead of being altogether an *electron per se*, as many of his devotees represent him, the celebrated German Professor, like other great modifiers and improvers of science, is deeply indebted, for his knowledge of facts, to the age and country in which he lives. And this is as true of Columbus, Bacon, Newton, and Franklin, as of other more common and every-day men. Had they lived respectively at earlier periods, they would neither have done what they did, nor become what they were; and, had they lived severally at later times, other men of genius and industry would have arisen at the proper dates, availed themselves of existing and favoring circumstances, and become each in his own department, the illustrious discoverers and improvers of the world. So true is it, that, to a great extent, the most renowned personages are the product of the events and general condition of their own times. In no other age but his own, could Washington have become Washington in the new world, or Napoleon, Napoleon in the old.

But to return from this digression. Professor Liebig's chapter on "Poisons, Contagions, and Miasms," must now receive a few minutes of my attention.

In whatever part of it, as heretofore stated, the Professor attempts an exposition of his own views of physiology, whether vegetable or animal, healthy or diseased, he does little else than make bold assertions, without either proof or plausible foundation—indulge in spurious reasoning, or depart from reasoning altogether—dogmatise, as if he were repeating the words of an oracle—and utter notions, instinct with error at times, and again entirely unintelligible. And these are the very elements of *intellectual balderdash*—a repulsive mixture, which men of an ambitious spirit and an ostentatious disposition and manner rarely fail to concoct, when they eagerly descant on subjects of which they are ignorant, as our author does when he treats of any branch of the laws and functions of living matter.

Of the truth of this general statement, my proof shall consist of extracts from the chapter of errors and blunders I am considering. And, if I am not mistaken, they will be found sufficient to justify me in the strongest expressions I have employed. The following are instances where the Professor indulges most freely in open and positive assertions on points, respecting which he neither gives his readers, nor possesses, or indeed can possess himself, a single tittle of proof; and for the elucidation of which he has neither made, nor can make, a single experiment.

> "Sausages," says he, "in the state here described [a putrid state], exercise an action on the organism, in consequence of the stomach and other parts, with which they come in contact, not having the power to arrest their decomposition, *and entering the blood in some way or other, while still possessing their whole power*, they impart their peculiar action to the constituents of that fluid." (P. 388.)

Though, to the eye of every enlightened and unprejudiced physiologist, the very aspect of this clause renders it utterly unworthy of analysis, it shall, notwithstanding, receive a concise, but, I trust, a satisfactory one. And, in giving it, I shall, for the sake of brevity, merely *state* my facts and positions, as fully *acknowledged* and *established* ones, unaccompanied by illustration or proof.

When putrid food is swallowed by man, one of two events uniformly occurs; his stomach rejects it by vomiting, or *removes its putridity*, and converts it into chyme *free from taint*. Chyme, *actually putrid*, or even, I believe, bordering on it, when first taken from the human stomach, has never yet been seen by the human eye. Nor, as every fact bearing on the subject gives us reason to believe, will such a phenomenon be permitted to present itself, until the now-existing laws of our nature shall have been changed. Of this wise and beneficent feature, in the economy of our systems, the final cause is obvious. It is to secure from putrefaction our blood, in common with the other fluids and the solids of our bodies; because that condition of them is not only incompatible *with*, but in direct opposition *to*, the very essence of life.

In open and deadly conflict, however, with this kind and salutary arrangement, made for the benefit of our race, by the ALL-WISE CREATOR, *in the council of Heaven*, is the arrangement fabricated, in his *laboratory and closet*, by the Professor of Giessen, for the benefit of his own dreams and vagaries in chemico-physiology.

By this new system of economy for the human constitution, conceived and developed by the distinguished German, the provision, on the same point, previously established by the Deity (having been discovered by *chemico-physiological* acumen to be wanting in efficiency), is "*nullified*" and "*expunged*" from the Record Book of creation, and a wiser and better provision established in its place!!

In conformity to the principles of the German "new light" fabrication, putrid food received into the human stomach, neither offends the nerves nor disturbs the muscles of that most sensitive, *conservative*, and important organ. For, from the silence of Professor Liebig on the subject, we are not authorized to believe, that his putrid sausages produced, in those who swallowed them, either vomiting or even sickness. They, "some way or other," secret, silent, and unknown, passed *unchanged* and *uninjuring*, through the chyme and chyle-making organs, traversed the lacteals, mesenteric glands, and thoracic duct, entered the blood, their putrid venom still prevailing, and reduced, "by the lump," every putrefiable portion of the body into a repulsive but still *living* mass of corruption!! I say a "living mass," and prove my statement by a further extract.

> "All the substances in the body, *capable of putrefaction*, are gradually decomposed, *during the disease*" (the sausage disease), "and, after death, nothing remains except fat, tendon, bones, and a few other substances, which are incapable of putrefying in the condition afforded by the body." (Ibid).

Could I find, or even invent, terms sufficiently expressive of *astonishment*, *condemnation*, and withering *derision*, I would offer a remark or two on this extraordinary and revolting paragraph. But, as respects all these points, my resources for expression fail me, and constrain me either to be silent, or to speak inefficiently as to the object in view.

The *entire* body of man in a state of *putridity*, yet, at the same time, in a *living* state, and performing, in that *cadaverous* condition, all the functions subservient to life!! Why, a more insane, preposterous, and repulsive conception never emanated, and never can emanate, from the brain of a bedlamite! Nor do I depict the conception either uncharitably, or with too much strength of line, or glare of color. I employ not an element of either shape or shading, in respect to which I am not fully justified by our author's representation. In the gentleman's own language:

> "*All the substances in the body capable of putrefaction* are gradually decomposed during the course of the disease" (the sausage disease), "and, after death, nothing remains except *fat, tendons, bones,* and *a few other substances,* which are *incapable of putrefying in the conditions* afforded in the body."

To render this clause fairly intelligible, and to give it the least weight or merit, information on two points is essential. I shall therefore ask for it.

What are the "few other parts," beside "fat, tendons, and bones," that do not putrefy during the sausage disease?

And what are the "conditions" necessary to putrefaction, which are not "afforded in the body?"

It is not, I think, possible that, by the "few parts," thus referred to, the Professor means to designate parts so large and numerous, *as the whole digestive apparatus, the circulatory apparatus, the lungs,* the entire muscular system, *and the brain and nerves.* Those parts, therefore, constituting the very seat and stronghold of life and action, are, according to the doctrine under examination, *putrid.* Yet, still does the patient live, breathe, move, feel, and think!! He is, in fact, the most contradictory and revolting of objects—*a living cadaver!!* Deny it who may—be shocked at it who may—avert his face and mind from it who may—such is the disembodied doctrine of the Professor of Giessen. A human being, utterly disqualified for a vital function, still alive, and performing vital functions!! Nor is all yet said that the case admits and requires.

Those parts of the body which I have termed the "seat and stronghold of life," especially the digestive organs and the brain, are among the *most putrefiable* we possess. The nameless "conditions" therefore, so vaguely and uninstructively referred to by the writer, cannot possibly protect them from putrefaction, while other parts, even much less putrefiable, but certainly not more so, undergo that process.

As to my second question, what are the "conditions not afforded by the body?" I regard the very reference to them, by Professor Liebig, as nothing better than a disreputable stratagem, intended and fitted to sustain, among the unthinking, by *pretence* and *mystery,* a notion not sustainable by *fact* and *argument.* All else I shall say respecting it, therefore, is, to offer a defiance to Professor Liebig and his followers, so to expound and define the matter, as to make of it anything more than a pitiful sham,—or a disingenuous *pretext,* where *reality* is wanting. Nor will the challenge be accepted; because the effort to expound would bring discredit on the acceptor. Once more.

Another very unusual feature, in the Professor's sausage complaint, is, that one of the residuary portions of the body, found on inspection, after death, was "fat." Now that "fat" is not so putrefiable as some other parts of organized matter, is true. But it is equally true, that in all sorts of disease, especially of *lingering* disease (and of that description evidently appears to be the disease in question), fatty matter is removed from the adipose membrane with *more rapidity* than, under the circumstances of the case, marks the removal of any other sort of animal substance. Hence the leanness produced by all complaints, especially by slow-moving chronic ones. I need not say that this is the result of the great facility with which fatty matter is taken up by absorption. If my recollection, moreover, does not fail me, this ready removal is referred to by the Professor himself, as tributary to the production of animal heat, in cases where little or no carbon is swallowed as food. This feature, therefore, of the sausage malady, demands explanation. Will the Professor have the goodness to furnish it?—and thus remove doubt and mystery.

But wherefore should I consume any more time—rather perhaps, wherefore have I consumed so much already, in discussing a condition of things, which, under the system of laws that governs at present the economy of man, never has occurred, and never can occur? The event would be *miraculous*—something beyond the scope of natural laws and powers, and producible only by *supernatural* ones. As well may the celebrated German assert that he has seen a criminal, after *decapitation* and *disembowelment*, *walking about* and performing the other functions of life, as a patient thus acting, under the cadaverous condition of the sausage complaint. Blood *coagulating on the headman's block*, is as well calculated to vivify and sustain the system of its owner, as it would be were it a *putrid colluvies* flowing in his blood-vessels. If Professor Liebig believes in either event, he is *no physician*, but an empty *pretender to medicine*.

Such, in truth, I have believed that personage to be, ever since I perused his Animal Chemistry. And a report has lately reached me, tending not a little to strengthen that belief. I am assured by it, on authority which I do not feel at liberty to disregard, that the Professor has never been regularly educated to medicine. He is said to have been bred to chemistry and pharmacy. And, on account of his eminence in *them*, and perhaps in some other branches of science, he received, as a compliment, the honorary title of Doctor of Medicine. That he has never been a *practical physician*, I believe to be certain. From this circumstance alone, his knowledge of the profession must be extremely defective.

I record the report as I received it, without rendering myself positively responsible for its truth. Individually, however, as already stated, I am much more inclined to believe than to discredit it. Nor is the following paragraph less pointed and powerful in the testimony it offers to the same effect.

> "The mode of action of a morbid virus exhibits such a strong similarity to the action of yeast upon liquids containing sugar and gluten, that the two processes have been long since compared to one another, although merely for the purposes of illustration.* But when the phenomena attending the action of

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* [This is by no means, as Liebig alleges, a new theory, as may be seen most satisfactorily on consulting the English medical classics; for the three great cotemporaries, Sydenham, Morton, and Willis, who lived in London when the plague and other epidemic diseases were rife, all announced, however much they differed on other points, this *zymotic* hypothesis as the basis of their pathology. The early medical writers have very generally directed attention to the analogies which the diseases here referred to have with putrefaction, fermentation, and poisoning. Morton, in his Pyretologia, calls the morbid principle "*fermentum venenatum*," which, as he alleges, communicates its action like a ferment, from which result perceptible transformations (*mutationes*) in the blood, the secretions, and the tissues. EDITOR.]

each respectively are considered more closely, it will in reality be seen, that their *influence depends upon the same cause.*" (P. 389).

As far as I can interpret it, the following is the plain English of this quotation, reduced to practice.

If a "morbid virus," of *any* description I presume (for no discrimination or specification is here made), assail a brewer, it sickens him and kills him, or otherwise, in conformity to the same *chemical* principles and laws which govern his process in the production of beer!! The very conception of this idea by Professor Liebig is certainly one of the coarsest and clumsiest specimens of *soporific thought-brewing* I have ever witnessed. To me it is offensively trashy and nonsensical. Yet is the fortunate author of it destined, in the prophetic dreams and declarations of his advocates and followers, to be the opener of a "new era in the science of physiology!!" A writer who, in one book, makes a man a "*stove*," and, in another, a "*beer-vat*," proclaimed to be the author of a *physiological revelation!!* Shame, shame, on such *bare-faced imposture* and such degrading credulity!!

After a descant on the formation and action of contagion, to my mind as successfully enigmatical and unintelligible as if he had resolutely studied to make it so, Professor Liebig undertakes, in his usual style of dogmatism and positiveness, to show how it is that the vaccine poison and disease are produced, and how that complaint affords protection from the contagion of small pox; two disclosures which, as far as I am informed, no man had ever before seriously essayed to effect. And, had he succeeded in his enterprise, he would have immortalized himself as far above the immortalization of Jenner, as transcendental philosophy is superior to a collection of every-day facts.

In the present case, as in other similar ones, Professor Liebig gives vent to mere assertions, unsupported by either fact or experiment, or even by a single thought characterized by value or even intelligibility. To convince the reader that I neither fabricate nor exaggerate the faults here imputed, I ask his serious attention to the following protracted extract, whose length I find necessary to give a full and fair view of the Professor's effort to *expound*, on wrong principles, or on no principles at all, a subject which, in the present state of medical science, is inexpoundable, and of which he, in common with all other persons, is, of course, abundantly ignorant. If any individual can so far comprehend our author's effort as to interpret it to others, or to derive from it for *himself* either gratification or instruction, I am ready to admit that his penetration, judgment, and susceptibility of pleasure, are of a much higher and more desirable order that mine. To me, the whole concern is a book barred from my vision by a seven-fold seal.

> "The action, as well as the generation of the matter of contagion, is, according to this view, a *chemical process*, participated in by all substances in the living body, and by all the constituents of those organs in which the vital principle does not overcome the *chemical action*. The contagion, accordingly, either spreads itself over every part of the body, or is confined particularly to certain organs; that is, the disease attacks all the organs, or only a few of them, according to the feebleness or intensity of their resistance.
>
> "In the abstract chemical sense, reproduction of contagion depends upon the presence of TWO SUBSTANCES, one of which becomes completely decomposed, but communicates its own state of transformation to the second. The second substance, thus thrown into a state of decomposition, is the newly-formed contagion."

Before advancing any further in this quotation, I put the question—Whence does Professor Liebig derive the elements—I mean the *facts*—of this circumstantial and confident statement? Is it from calm and circumspect *observation*, aided by well-devised and accurate *experiments* made on the human body? or from the *toy-shop* of his own inventive imagination, which he is ransacking for matter in support of his hypothesis? And, in default of an answer from the Professor and his adherents, I reply myself, that it is positively and exclusively from the *latter source*. From the former he neither has derived, nor can derive, a shadow of evidence in favor of his notion.

Of the "two substances" of which the gentleman speaks, I fearlessly assert that he possesses no more of real and substantial knowledge than he does of the affairs of the planet Herschel, or of any other more distant and recondite transactions; or if he does, he can impart that knowledge. He can tell us what the "two substances" are, to which he attributes the formation of contagion. To test the knowledge of himself and others on this subject, I unceremoniously ask him, his advocates, and followers, what are those substances? And I will thank them, as my instructors, if they will have the goodness to inform me. But they will not do so, because they cannot.

Finding, however, as I *suppose* (for a *misty supposition* is all I can collect from the expressions employed), that a measure of the sort was necessary, the Professor seems to have made an effort toward the explanation required. But, in doing so, he has given a rigmarole as mystical and disreputable as has ever disgraced the records of medicine. Here it is; and that he may do it entire justice, I entreat the enlightened reader, first to forget or disregard all I have said in relation to it, and then examine it attentively, and judge of it for himself.

> "The second substance must have been originally a constituent of the blood; the first *may* be a body *accidentally* present; but it *may also be a matter necessary to life*. If both be constituents indispensable for the support of the vital functions of certain principal organs, death is the consequence of their transformation. But if the one substance, which was a constituent of the blood, do not cause an immediate cessation of the functions of the most important organs, if they continue in their actions, although in an abnormal condition, convalescence ensues. In this case, the products of transformations still existing in the blood, are used for assimilation, and at this period secretions of a peculiar nature are produced.
>
> "When the constituent removed from the blood is a product of an unnatural manner of living, or when its formation takes place only at a certain age, the susceptibility of contagion ceases on its disappearance.
>
> "The effects of vaccine matter indicate, that an accidental constituent of the blood is destroyed by a peculiar process of decomposition, which does not affect the other constituents of the circulating fluid.
>
> "If the manner in which the precipitated *yeast* of Bavarian beer acts (p. 350), be called to mind, the modus operandi of vaccine lymph can scarcely be matter of doubt.
>
> "Both the kind of yeast here referred to, and the ordinary ferment, are formed from gluten, just as the vaccine virus and the matter of small pox are produced from the blood. Ordinary yeast and the virus of human small pox, however, effect a violent tumultuous transformation, the former in vegetable juices, the latter in the blood, in both of which fluids respectively, their constituents are contained, and they are reproduced from these fluids with all their characteristic properties." * * * * * * * *
>
> "The action of the virus of cow pox is analogous to that of the low yeast;

it communicates its own state of decomposition to a matter in the blood, and from a second matter is itself regenerated, but by a totally different mode of decomposition; the product possesses the mild form, and all the properties of the lymph of cow pox.

"The susceptibility of infection by the virus of human small-pox must cease after vaccination, for the substance, to the presence of which this susceptibility is owing, has been removed from the body by a peculiar process of decomposition artificially excited." (Pp. 404-5-6.)

Such is a portion of the *contents* of Part II., Chap. XIII., of "Chemistry applied to Agriculture and Physiology." And sitting, as I am, a *self-constituted* judge of it, I feel it my duty to speak of it, as far as possible, plainly and impartially, and under the guidance of all the penetration, sagacity, and truth, I have at my command. But in doing this I must be brief, for the production before me is utterly unworthy of any waste of time. Nor is such waste at all necessary to do it justice. Three words may be selected which sufficiently characterize it in all its leading qualities—TRASHINESS, UNINTELLIGIBILITY, and NONSENSICALITY! Since the days of Paracelsus, as far as books have informed me, no such contaminating and deteriorating deluge has been poured into the science of physiology. And even the worst of the writings of that wild fanatical enthusiast are far less condemnable. In them, some of the pearls of truth and genius are scattered through the rubbish of unbridled extravagance.

But far different are the passages just quoted from the production of Liebig. They are nothing but a starless mass of error and worthlessness—I should rather say of error and *mischief;* for, that they are calculated to be injurious in their influence, especially on superficial thinkers, is not to be questioned. That hypothesis, which degrades the *body* of man to the level of a fermenting, bubbling *beer-vat*, cannot fail (provided it be believed), to deteriorate his mind, by dragging him, in his own opinion, from the point of elevation in the scale of nature, which the God of nature, by the express terms of his creation, designed him to occupy.

To show how utterly futile and unworthy of credit the assertions of Professor Liebig are, I here ask the question—How does he know that the *non-susceptibility* toward small-pox of *vaccinated persons*, is owing to the "removal of a certain substance from their blood?"

Has he ever analyzed the blood of vaccinated individuals, and found that fluid to be *destitute, in them,* of a substance which it possesses in the *non-vaccinated?* Or has he found the blood in individuals to be, in any respect, different *after*, from what it was *before*, vaccination? Or has he ever made an experiment to that effect? If so, can he tell what that substance is?

Without the least apprehension of being put in the wrong, or even contradicted, I unhesitatingly assert, that our author will not venture to give to either of these questions a *direct* answer in the *affirmative*. From that test of his correctness he will shrink. Yet has he *indirectly* but *substantially* stated each of them *affirmatively*.

He has asserted that, from the blood of vaccinated individuals, some given substance is removed, meaning of course by the influence of vaccination. Yet he does not know that this is a fact. By positively stating it *as a fact*, therefore, he has virtually and voluntarily departed from truth, and wantonly forfeited his credibility as a writer.

Before finally dismissing this subject, I shall subjoin an observation, which I defy Professor Liebig and the entire train of his followers to subvert by a fair adduction of facts.

Notwithstanding the vauntful declaration of his advocates, that the Professor has introduced, or is destined to introduce, a "new era" in physiology, he has not enriched that science *in its true character*, with a single *original* idea, or even with a single *new and amending thought.* He employs only ideas and thoughts derived from others; and these he often so distorts and caricatures as to render them *ridiculous.*

That Professor Liebig may have even greatly and essentially improved the analysis of organized matter *when dead*, I have not denied, or even questioned. But by that, he has added no more to our knowledge of the nature and true philosophy of *living* organized matter, than he has to our knowledge of political economy. If I am mistaken in this assertion, the man who shall detect and demonstrate my mistake, will peculiarly oblige me.

That a work so morally and physiologically corrupting, should, near the middle of the nineteenth century, be written and translated on the east, and republished on the west side of the Atlantic, is not only astonishing, but it is an outrage on the common sense of the medical community. Yet are the preceding extracts taken from the "FOURTH AMERICAN edition, with large additions!!" It will be borne in mind that all my remarks on Animal Chemistry relate exclusively to its physiology, healthy and morbid. Its *genuine* chemistry, I repeat, which I doubt not is of great value, I cheerfully leave to the appreciation of the votaries and competent judges of that important branch of science. One more blunder of our author in medicine, and I shall take leave, for the present, of him and his writings.

"Chemical actions are propagated in no organs so easily as in the lungs: and it is well known that diseases of the lungs are *above all others frequent and dangerous.*" (P. 406.)

This passage is unworthy of comment. Nor could any comment of mine add to the flagrancy of the error and absurdity which it already exhibits. It is not true, as is familiarly known to every enlightened physician, that "diseases of the lungs are *above all others frequent and dangerous.*" On the contrary, it is, most discreditably, the reverse of truth. Taking the annual average of mortality in every known climate and country, hot, cold, and temperate, savage and civilized, it will be found that death from affections of other organs, compared with those from diseases of the lungs, stand in the proportion of perhaps *ten* to *one*. Assuredly it stands in a very *high proportion.* By the warmest admirers and most devoted partisans of the German Professor (provided they be experienced and well-read practitioners of medicine), this truth will not be contested. Include in the estimate the common affections of the lungs called *colds*, which are accompanied neither by mortality nor danger, and even then the number of pulmonary complaints will fall very far short of the number of those whose seats are in the other organs of the body. In all matters, therefore, touching the functions, phenomena, and laws of living organized matter, whether in health or disease, Professor Liebig is the very *opposite of sound authority.*

Having closed my remarks on the hypothesis of the celebrated German *savant*, it is my purpose now to examine, to some extent, the doctrines and opinions of the Chemico-physiological School of Great Britain.

Of that school the leading members, to whose writings I shall chiefly refer, as containing the creed and orthodoxy of the sect, are Drs Roget. Carpenter, and Prichard—gentlemen and scholars who, as *medical philosophers*. are immeasurably pre-eminent over Professor Liebig. I shall, accordingly, feel myself bound to treat their productions with a corresponding degree of observance and respect—a measure that will afford me much gratification.

To attach to my disquisition all the collateral weight and authenticity in my power, I shall, perhaps, occasionally back and fortify my own sentiments, on the general subject, with those of Tiedemann and Müller, two of the ablest and most accomplished physiologists of the day. And, though I regret to know that, hitherto. the last-named gentleman has deviated from himself by assuming and occupying a sort of *quarter-way* ground between the chemico-physiological school and that of *true* physiology, I have reason to persuade myself that that deviation will not much longer endure. Influenced by the masterly and independent character of that Professor's mind, and the ardor, honesty, and efficacy of his inquiries, I do not permit myself to doubt that he will yet disentangle himself from early prejudice and partiality, and become the champion of a doctrine in harmony with nature and worthy of his own exalted reputation.

Experience and observation have long since taught me that failure to be successful and useful in discussion is much more frequently owing to a want of clearness and accuracy in definitions and statements, and perhaps also in general phraseology, than to a want either of knowledge or native ability.

Under the influence of a want of such perspicuity and exactness, it is scarcely possible for the parties to the discussion to ascertain, with precision, the actual points which they mutually design to establish or overthrow. And it is unfortunately true, that both in single terms and entire expressions, intended to indicate the *specific* cause or agent of vitality, more ambiguity perhaps is involved than in those indicative of any other point in natural science.

To the cause of vitality I have affixed the term "specific," for a reason which is deemed unexceptionable and important. In its effects, that cause (if such *can* be the case) is more entirely distinct and apart from everything else, and, in its operations, more essentially identified with *itself alone*, than any other agent that can be named. And this is as true of it, in its relation to every form of *chemical agency*, as it is with regard to that which controls the movements of the heavenly bodies, or fits the sun to be the fountain of light. It is equally itself alone and distinct from them all. This, however, instead of being merely stated by me in the way of assertion, is the position which I stand pledged to make good in opposition to the tenets of the British chemico-physiological school. Nor does this constitute the whole amount of my engagements.

I further pledge myself to avoid, as far as possible, the ambiguity referred to, as well in my own terms and forms of expression, as in my interpretation of the terms and expressions of others. And my object in all this will be, not what too many controvertists aim at—to envelope my subject in shadow and mystery, but to elucidate it, and thus arrive, if practicable. at some definite and conclusive decision.

I have promised an examination (and it shall be a strict as well as a fair one) of the "doctrines and opinions of certain" distinguished chemico-physiologists of Great Britain, who are not only the leaders but the acknowledged teachers of the school they belong to—virtually if not formally dictating to their fellow-members and followers, the creed they profess and the orthodoxy they maintain. A few words more in the form of preliminary explanation.

It is my intention to make my contest with those writers both open and honorable; that, as far as I am concerned, truth alone, and neither finesse nor expedient, may arbitrate between us. That they may, therefore, have as fair a field for proceeding against me as I have for my movements against them, I deem it right to communicate to them as full and explicit a knowledge of my physiological profession of faith as I possess of theirs.

I wish them, therefore, to understand that, to the ultimate extent of the meaning of the terms, I am a believer in a *vital principle*, which, as already intimated, I regard as a specific kind of *imponderable matter*, as indispensable to vitality as carbon is to carbonic acid, azote to ammonia, or hydrogen to water. This *materia vitæ* is an essential element of living organized matter of every description, whether vegetable or animal. Nor do I hesitate to express my persuasion of at least the strong probability, that, according to the time-worn scholastic dogma, ponderable matter, in and of itself, is altogether *inactive*—that it is spell-bound by a *vis inertiæ*; and that the sole cause of its action is derived from the *imponderables*. Without them, material creation would be motionless.

I further believe in the existence of what may be termed *vitalizable* matter, because it is participant of life, and indispensable to it. Of this, there are four kinds—carbon, oxygen, azote, and hydrogen. Of these, there is good reason to believe that two or more kinds are essential to the constitution of every sort of living organized matter; because they are found in every sort. To form vital matter, let the requisite number of these vitalizable elements be brought together, suitably arranged, and duly impregnated, or, in the appropriate way, united with the vital principle, and the work is done. Some form of living organized matter is the product; but, in and of itself, each kind of vitalizable matter is *lifeless*.

Nor am I convinced that *formal parental* influence is indispensable to the formation of this union. Against the doctrines of *spontaneous* and *equivocal* generation, I well know the prejudices and antipathies that exist. I have witnessed many a copious and boiling stream of verbiage let off in opposition to them, at times with mighty vehemence and clamor. But the noise was as empty as it was angry and obstreperous. To my mind, it never conveyed against the doctrines even the shadow of a solid argument.

I do not positively aver that the doctrine of spontaneous generation is true; but I do aver that, in the belief and defence of it, there is nothing unphilosophical and irreligious, immoral or unbecoming. Yet have many individuals, in whose minds more liberal views should have existed, been profuse in charges to this effect against its adherents and advocates. Nor do I hesitate to add, that facts exceedingly striking and apparently substantial, and arguments highly plausible and difficult of refutation, if not altogether irrefutable, in favor of the doctrine, might be easily adduced.

I also believe that the vital principle enters the system through the lungs, and there becomes an element of the arterial blood. Having thus communicated life to that fluid, it accompanies it in its circulatory course, and vitallizes, in its round, every portion of the body. Hence is respiration the only *truly* vital function of the system; because it is the source of vitality to others, as well as to itself.

I believe again that, by means of the great diversity of the organization and structure of the various tissues and organs of the body, the *materia vitæ*, as a *single* agent, is capable of producing the numerous sorts of action and their effects, that exist in the body. Be its cause or spring of action what it may, that every organ conforms, in its function, to its organization and structure, is an axiom in physiology not to be questioned.

In illustration and proof of this, testimony in abundance will be hereafter adduced. At present I shall only further say, that, according to my information on the subject, the notion that there exists a "*vita propria*," as it is termed, or a specific form of *vital endowment*, for every different organ of the body, suited to, and productive of, its peculiar mode of action, though once entertained, is now rejected by every able and enlightened physiologist. Confident I am that it ought to be rejected, as will more fully appear in the sequel of this paper. It is not a "vita propria," but an *organizatio propria*, that fits an organ for specific action. The vital endowment of the lungs, the liver, the kidneys, and the brain, is the same. But their forms of organization are different, and hence their adaptation to the performance of different functions.

I believe that mere arrangement, combination, or juxtaposition, cannot infuse new and vital properties into single and fundamental molecules of dead matter. I cannot, therefore, concur in the notion entertained by many, that organization is the cause of life. Of this, the very converse I am confident is true. Life is the cause of organization. On this topic, also, a few further remarks will be made, on a subsequent occasion.

I believe that in living matter, when in a healthy condition, the vital principle prevents entirely all sorts of chemical action, or overrules and directs it to its own purposes. In the economy, therefore, of living organized matter, chemical affinity, as a separate and independent power, has no more influence or agency, than the laws of vitality have in a block of granite. I mean, of course, in the *active* economy of living matter—in all the operations of the vital *plastic* power—in giving form, size, and color—in nutrition, secretion, the diversities and aptitudes, in structure and endowment, of the several tissues and organs, and such other processes as the chemistry of the laboratory and of exterior nature in general never performs.

I believe in the existence of a peculiar and distinct kind of attraction, entitled to the name of *vital* attraction. And this is as different from chemical attraction, and the attraction of cohesion, as they are from each other. Of this, also, an example will be given.

Finally; I believe the notion which assigns to chemistry and vitality a joint agency in the performance of any of the functions of living organized matter, to be, if possible, even more incongruous, than that which assigns them to chemistry alone. That it is directly at war with common sense is indubitable. The reason is plain. By every person, who is in the slightest degree acquainted with the subject, it is acknowledged that the laws of chemistry are essentially different from the laws of vitality, and, in most respects, directly opposed to them. And both sources of influence act on and with matter, *not in masses*, but in *atoms* If both be concerned, therefore, in the function of the same organ, at the same time, they are both acting at once on the same molecules of that organ. They must be acting, moreover, each according to its own laws, which, as already observed, are widely different from. and, in many respects, the very opposites of, one another. From a condition of things thus irreconcilably conflicting, a chaotic issue would be necessarily produced.

Such are some of the leading tenets of my creed, in relation to the cause of vitality and the constitution of living matter. And they are irreversibly at war with those of the chemico-physiological school. Hence, that either the members of that school, or myself, are deeply immersed in error and its consequences, will not be denied. With a view, therefore, as far as my resources may avail me, to decide the question, on whose side (that of the chemico-physiological school, or that of the purely physiological one, to which I myself belong), do error and its influences lie, a further inquiry into the subject, conducted in a different mode, shall now be instituted. But, previously to the commencement of this fresh form of disquisition, a few preliminary remarks will be in place.

(*To be continued.*)

ART. VI.—*Case of Lithotripsy*. By ALBAN GOLDSMITH, M. D., late Professor of Surgery in the College of Physicians and Surgeons of New York, and in the Medical College of Ohio.

MR. A., æt. 81, of strong, robust frame, applied, March 1st, 1843. His occupation. during the early part of his life, had been that of a butcher He stated that, about forty years before his application to me, his lower extremities had become paralyzed, the bladder also being affected; but that they had gradually recovered their functions in the two succeeding years; and that now there remained only occasional "creeping" sensations in his hips and thighs He had suffered from pain in micturition for forty years; and from the commencement of this symptom to the present time, he had at different periods discharged in his urine small white calculi. He had also on several occasions suffered from obstinate retention of urine.

He complained, at the date of his application, of inability to retain his urine for more than half an hour, and of great pain in micturition. His urine proved, on examination, to be alkaline, and to be loaded with pus and mucus.

In attempting to introduce a catheter (No. 8), I found a stricture two and a half inches from the glans penis; and, although I succeeded in passing this point with an instrument (No. 6), yet it became entangled at the neck of the bladder. This difficulty was overcome by withdrawing the catheter and directing its point to one side, when it passed readily into the bladder, coming in contact with one large stone and several smaller ones. The only way in which I can account for the entanglement of the instrument at the neck of the bladder, is on the supposition that the third prostate was enlarged; and that, as the patient had for some years been in the daily habit of introducing a catheter to draw off his water, he had perforated this portion of the gland. That the end of my instrument had passed into the laceration thus made, I inferred from its seeming to be bound down so as to prevent a free exploration of the bladder. Upon examination through the rectum, however, I could not discover that the prostate was enlarged, though the bladder felt much harder than is natural. Hence I inferred that its coats were considerably thickened—a fact which might account for the indistinctness of the prostate.

Treatment.—I treated the stricture by dilatation; and on the twelfth of March, I began the operation of lithotripsy. I introduced a catheter, and through it filled the bladder with warm water. When the catheter was withdrawn, the injection passed out rapidly, bringing with it shreds of ropy purulent substance, resembling very much the broken down integument.of ulceration. These masses were saturated with sandy sediment. Mr. A. told me that he had often noticed them, as they would sometimes get into the urethra; and that he could then get them out, by pushing the stone out of the neck of the bladder, so that the urine could pass more freely.

I next introduced a lithontriter, No. 10, (Heurteleup's); and having seized a stone, broke it. This was done easily and without pain. A large quantity of detritus, mixed with the fibrinous masses just mentioned, passed during the same day. I finished the operation in twelve sittings, each of which was at my office. Some of them were on successive, and some on alternate days. The patient complained of no pain, except in two instances; and then it was caused by the lodgment of fragments at the strictured portion of the urethra. These were removed by the long urethra forceps. There was no increased irritation of the bladder, during any part of the treatment. The pain in urinating ceased with the passage of the last fragment, on the second of April; and the patient congratulated himself upon the great relief which the operation had afforded.

My attention was then directed to the relief of his remaining symptoms. He was very old; and his bladder had so long been subjected to the action of the stone, that it was evidently permanently diseased. He could not retain his water long, say from three to six hours at most.

I saw him occasionally after this for the purpose of keeping the stricture dilated, so that the fibrinous masses, which were still formed, though in less quantity, might find an exit. He was, by this means, kept comparatively comfortable, with the ability to retain his urine gradually increasing; but, some time in June, in descending a flight of steps, he fell, and bruised his back and hips. This injury confined him to his room for some time, and he left it a good deal debilitated. He rode out occasionally, and seemed to regain his strength; but he was soon attacked by the epidemic influenza, so prevalent at that time in our city. He was taken with chills, followed by fever and profuse perspiration; and he continued in this condition for eight or ten days, when, under the judicious treatment of his family physician, Dr. Cockroft, his chills subsided. But they soon after returned; and our patient died apparently of old age and exhaustion, about the first of August.

Post-mortem examination.—The abdomen alone was laid open, and the examination was restricted to the urinary organs. The kidneys were slightly atrophied, with a pelvis somewhat enlarged. The ureters were dilated to twice their natural size. The left ureter and pelvis were filled with very thin pus. The bladder was removed along with the ureters and a portion of the penis. The coats of the bladder were found nearly half an inch in thickness; and the inner surface was covered with adherent fibrous masses, presenting the appearance of a cancerous uterus. This was the substance which, detached and lodged in the urethra, so often produced retention of urine.

The prostate seemed to be nearly obliterated; but over it and at the neck of the bladder, I found some of these adherent masses, projecting from the surface about half an inch. To this cause is to be ascribed the entanglement of the instrument in the operation.

The urine was highly acrid and ammoniacal, mixed with pus and floculi. No fragments were found.

The urethra was irregular, and it presented some induration at the strictured part.

Remarks.—This case illustrates several important points in the pathology of the bladder.

In the first place, there was no paralysis, which impaired the functions of the bladder. Now, whenever the normal powers of this organ are impaired, it approaches in its character, in a greater or less degree, to a non-vital cavity; and hence it allows, as soon as the urine collects in it, chemical action to take place. Calculous matter, the result of such action, is deposited, which, coming in contact with the coats of the bladder, is a cause of irritation; and thus is the original disturbance increased. This patient had suffered from severe attacks of retention of urine, which also impaired the power of the bladder, and aggravated the disease.

Here, then, we have sufficient cause to explain the thickening of the coats of the bladder by the deposition of lymph between the laminæ. Thus is the vitality of the vesical organ impaired; its muscular power is lessened by the hypertrophy, becoming, in fact, an inert receptacle for the urine, instead of a sensitive organ; and so far from presenting, in virtue of its vital power, chemical action, it is ready, from its muscular energy, at any time, to contract and expel its contents. These morbid actions continue; the parietes become more and more thickened; coagulable lymph is effused from its inner surface; and as this last is infiltrated with calculous matter, we thus have a nucleus for a stone.

I find that this thickening is a very common occurrence in strong, robust constitutions; and that when the bladder gets into this condition, it loses much of its sensibility; and, indeed, is so little irritable, that injections and instruments can be introduced without producing pain or inflammation. On the other hand, when the constitution is not so robust, or is associated with a scrofulous taint, and instead of thickening the bladder secretes large quantities of pus, it becomes very irritable, and it is with great difficulty that you can introduce an instrument or an injection, without producing an increase of irritation.

. In this case the bladder was not irritable, nor did the operations produce any irritation. The only pain or difficulty was in the passage of the fragments through the strictured part of the urethra. Their passage in two instances was facilitated by the long forceps.

There was great pain in this case from the stone getting into the neck of the bladder, and the patient was sensible of the diminution of pain on the passage of successive portions of detritus.

It might be said that in this case the operation hastened death; but this could not be, since there was no evidence of an increase of the disease of the bladder; while, on the other hand, after the operation, the urine was discharged at longer intervals, unattended by pain. There was no pain or fullness over the region of the pubels; nor was there any sign of inflammation in the region of the bladder. He continued to improve gradually and steadily for more than two months, both in his general health and in that of his bladder. It is hardly possible that a mechanical injury, especially in such an organ as this, should remain dormant, and only develope itself after the space of two months or more. His extreme age, the constitutional debility which must inevitably have been brought on by the long continuance of the disease, the depressing influence of the injury he received; and, above all, the epidemic influenza, which, unaided, carried off almost every very aged person that it attacked, are causes sufficient of themselves to account satisfactorily for his death.

It would seem that if, as in this case, a stone can be broken in a bladder as dreadfully diseased as it was, without producing inflammation, then there are few cases in which simple disease of the bladder need interfere with the application of lithotripsy. It is absolutely necessary for the successful performance of this operation, that the surgeon should study the habits of the bladder; and thus learn by a frequent introduction of instruments, how much may be done with impunity. The great drawback to its success in practice is the want of care and gentleness in manipulation. In hospital practice, whence the most of our statistics are drawn, operations are frequently performed before the bladder has yet recovered from the irritation of a preceding essay, prompted, no doubt, by the presence of those who come to witness the surgeon's skill. Such practice is not only dangerous to the patient, but as it brings into disrepute an operation which need in no case hazard life, it is actually suicidal.

Art. VII.—*On the Influence of Opium upon the Catamenial Functions.*

By James McCune Smith, M.D., of New York.

Pereira observes, "that we have little positive information as to the effects of opium on the reproductive organs of women. It is said that the catamenia, lochia, and secretions of milk, are unaffected by it;" whence he infers "that its use in the female is not likely to be attended with retention of the uterine or mammary functions."*

The following cases, which have fallen under my notice, within the last four years, give uniform evidence contrary to the above view.

Case I. E. L——d, a middle sized, plethoric young woman, *æt.* 24. In 1837, having procured an abortion by means of some powerful drug, she sent for a physician, who gave opiates in the course of his subsequent treatment. From that time until April, 1843, she resorted daily to laudanum, and gradually increased the dose to four ounces per diem

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* Mater. Med. and Therap., vol. ii., pp. 700, 781. Philad. Edit., 1843.

Her appearance last April, was as follows: look, stupid; complexion, florid; person, fat; bowels, regular; and she ate very little food. Her catamenia, which had been regular until January, 1837, have never appeared since. I believe she is now in the Magdalen Asylum at Yorkville.

Case II. E. M——l, *aet.* 23, of middle size and sanguine temperament. About three and a half years ago, during an attack of acute rheumatism, laudanum was freely administered to her. During her recovery, and until March, 1843, she continued the daily use of the tincture of opium; and from 1841 to 1843, she drank from four to six ounces per day. In March last, she had clear complexion, ruddy cheeks, good general health, bowels regular, and ate little food; but from the date of her rheumatism, until March, 1843, her catamenia did not appear, notwithstanding she had been perfectly "regular" until that attack. She went into the country in April, 1843, where she could not obtain any laudanum; but she applied to a physician, who prescribed an emmenagogue, which was followed, at first, by a slight, and subsequently, by several profuse, but regular, returns of the catamenia. She has recently (July 20th) returned to this city, and has resumed a very moderate allowance of laudanum.

Case III. S. S——h, a short, fleshy, plethoric young woman (colored), *aet.* 26. Until July, 1837, she had menstruated regularly; but, at that date, she commenced the daily use of laudanum, to allay the pain of *onychia maligna* of the great toe of the left foot. She continued drinking from two to four ounces of tr. opii, per diem, until June, 1842. During these five years, although her general health remained unimpaired, her catamenia did not appear. At the last-named date, she was cured of the *onychia*, by an operation. The succeeding month, and every month since, the menses have punctually appeared, without the aid of any medicine.

Case IV. R——n, *aet.* 25, of middle height, robust, sanguine temperament: has a child four years old. About two years ago, while confined to her room by a fracture of the left tibia, she commenced using opium to relieve pain and restlessness. She has sometimes used twenty or thirty grains of opium per day, for two or three months steadily; at other times, she quitted the stimulant entirely, for the same length of time. While she continued using the opium daily, her catamenia did not appear; but, on forsaking the drug for a month or two, she becomes "regular" without an emmenagogue. Her general health is good, and she has not been constipated at any time.

Case V. E. R——, *aet.* 18, a young, unmarried female (colored), applied to me, in May or June, 1841, for relief from an increase in the quantity and frequency of the catamenia. She was pale, thin, and of the nervo-sanguine temperament. Pulse frequent, but soft; head dizzy. She has a sister and brother; both are married and have progeny. There were no coagula in her uterine discharges, and except physical weakness, her general health was good. Having tried the ordinary treatment without success, I gave her a combination of acetate of lead, camphor, and *opium*, in minute, frequently repeated, doses. I commenced the use of this combination on the fourth day of the persistence of the discharge, and continued the remedy until the discharge ceased. She was greatly relieved by this practice. Shortly afterwards, on leaving the city; she procured a copy of the prescription; and, without my knowledge, continued using the pills (as her sister informed me lately) nearly a year. The catamenia gradually diminished, and, at the end of a year, entirely ceased. She was subsequently (Sept. 1842) married. Her general health remains good, her person is thin; but menstruation has not recurred, nor has she yet become pregnant. Since abstaining from the pills (Aug. 1842), she has repeatedly resorted to emmenagogues, prescribed by various physicians, but without success.

Remarks.—The first four of the above females are courtezans. But their vocation cannot have been the cause of the arrest of their menses; for, I can say, from a somewhat extensive experience in the Lock Hospital at Glasgow, that this unfortunate class have no peculiar liability to suppressio mensium. E. M——l (case II) informed me that she is acquainted with several opium-eaters, in all of whom the menses have been arrested, as they believe, by opium.

Without assuming from so few cases, that the daily use of opium will *always* arrest the catamenia, I submit them, in the hope that they may attract the attention of medical men to whatever facts may be within their reach. It will be interesting to ascertain, in relation to married women, who have borne children previously to a resort to opium-eating, whether this habit arrests their catamenia, and their capacity for conception; or, whether it arrests the one and not the other. It may also be worth the inquiry, whether opium, in skilfully regulated doses, may not be used as a means to bear women safely through the critical disturbances which occur at the "change of life."

One circumstance is common to all the above narrated cases, viz., the arrest of the catamenia was not followed by the vital disturbances which attend suppression from other causes; or, in general terms, opium, in daily doses, arrested uterine periodicity without disturbing other ordinary vital functions. Here we have an analogy with other well known effects of opium; for this drug, to a great degree, arrests hunger, which, in the present state of civilized society, is a *periodic habit*, for it is seldom allowed to become an actual *want*. In a therapeutical point of view, opium exerts an almost uniform influence as an arrester of periodicity.[*] As a narcotic, its influence is not uniform, for it does not always produce sleep; and I am inclined to the belief, that when sleep does follow its exhibition, it is rather a consequence of the absence of (an arrested) paroxysm, than of a direct narcotic influence

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[*] Trallian (vide Senac on Fever, p. 220. Caldwell's Trans.), Sydenham (Rush's Edit., p. 90, et passim), Fordyce (Dissert., p. 278, Boston Edit., 1815), Armstrong (on Typhus, p. 365, London, 1817), M'Causland, Brera, and Thomann (Copland's Dict., vol. i., p. 994), and Parry (Amer. Journ. Med. Sc., July, 1843, p. 31), have administered opium to arrest the recurrence of *periodic* paroxysms of rigors, febrile exacerbation, delirium, and congestion, and with general success.

MONOGRAPH.

Art. VIII.—*An Essay on the Origin of Syphilis.* By John Le Conte, M.D. Read before the Georgia Medical Society, at Savannah, May 18th, 1843.

Although it may be considered *practically* unimportant to investigate the natural history of those diseases which are usually denominated as specifically contagious; yet it affords a topic of curious research to the theoretical inquirer and the naturalist. It is impossible to imagine that the first created individual was born with all this catalogue of loathsome diseases upon him, and that they were thus entailed upon all future generations, and yet they seem to be produced by no cause except a specific contagion. Almost every person is obnoxious to them upon the application of this cause: and this liability appears to be little affected by constitution, age, habits of life, climate, or other external circumstances. We know of no distinct and appreciable cause now in operation, which could, in the first instance, have generated them. These remarks apply to the small-pox and the measles, which were first known to the Europeans about the middle of the sixth century, when the former raged with violence in the besieging army at Mecca; and they apply, perhaps, still more remarkably to the case of *syphilis*.

Alexander Benedictus, a Veronese physician, was the first to admit, as a contagious principle, *a venereal taint*. This was embraced by Fernel, and received the name of *lues venerea*, poison, venereal virus, etc. (M. Ricord's Treatise on Ven. Disease. New Trans. New York: 1842. p. 7.)

There is no subject in the whole range of medical science, which has given rise to more visionary and unprofitable discussion, or which has been more mystified by disputation, than the origin of syphilis. This perplexity extends even to the derivation of the name. Thus Dr. F. Swediaur derives the term from the Greek, σῦς, a hog, and φιλια, love (impure or foul connection). (Vide Swediaur's Treat. on Syphilis. Hewson's Edit. Philad., 1815. p. 246.) Others derive it from the Greek σιφλος, formed by syncope from σιπαλος, "deformed," "ugly," "ridiculous from personal defect," etc. (Vide Hooper's Med. Dict. 4th Am. Edit. New York: 1839. Art. Syphilis. Also Dunglison's Med. Dict. 3d Edit. 1842. Art. Syphilis.) By adopting the latter etymology, our distinguished lexicographer, Dr. Noah Webster, has been induced to discard the ordinary method of spelling the term; for he has been compelled, by the principles of philology, to make SIPHILIS the correct orthography! This error has crept into all the numerous editions of his excellent Dictionary, in the abridged octavo form, up to the year 1842. However, in the *larger* edition, in two volumes, published in 1841, the corrected orthography is given, and the origin of the term is accurately referred to the poetic invention of Fracastorius. The opinion of the learned Dr. Good on this point is unquestionably, in the main, the correct one. He remarks that the specific term syphilis "was probably invented by Fracastorius, about the close of the fifteenth century, from the Greek συ and φιλέω, importing "mutual love;" for such is the title by which he has designated his celebrated and very elegant poem upon this very inelegant subject." (Vide Study of Med. Doane's Edit. New York: 1836. Vol. II., p. 91). Whatever objections may be raised against this opinion in a philological point of view, one thing is clearly manifest, viz., that the term was actually fabricated by Fracastorius at the above-mentioned period; for our poet describes his fictitious hero, SYPHILIS, as having brought down the disease upon himself and the world at large, as a condign punishment for having insulted Apollo, while tending the flocks of King Alcithous. (Vide Dr. Good, op. cit., vol. ii., p. 91.) Dr. A. J. L. Jourdan observes, on this point, and, perhaps, very justly, that "from this, appears the futility of searching for the etymology of a word forged in the imagination of a poet." This derivation was suggested by Sauvages. It is not, however, I think, beyond the province of reasonable conjecture, to suppose that Fracastorius was guided by some classical analogy in the selection of a term. (Vide Historical and Critical Observations on Syphilis, by A. J. L. Jourdan, M.D. Translated from the French by R. La Roche, M.D., as appended to P. J. G. Cabanis' Essay on the Certainty of Medicine, translated from the French by the same. 8vo. Philad., 1823. P. 41.)

This specific term is, therefore, borrowed from the name of the unfortunate hero of Fracastorius, who was first afflicted with this curse in the shape of disease. He is represented thus:

> ———" ostendit turpes per corpus achores,
> Insomnes primus noctes, convulsaque membra
> Sensit, et à primo traxit cognomina morbus:
> SYPHILIDEMQUE ab eo labem dixêre coloni."—(Ibid.)

It is not a little singular, and it is certainly very remarkable, that the ravages of such a horrible malady should have the effect of inspiring the imaginative with *rhapsodies poetic!* And yet we all know that Fracastorius, who was an eye-witness of its first and most hideous ravages, has left us a most splendid poem in Latin hexameters, exclusively devoted to this *unique* theme!

Soon after syphilis appeared, the national genius of the French exercised its natural gaiety in the composition of ballads and allegories, such as the ballad of John Droyn, of Amiens, published in 1512; and the allegory of John Lee Maire, which appeared in 1520. (Jourdan, op. cit., p. 46.) Indeed, even so late as 1841, M. Barthelemy published an elaborate poem on *syphilis*, in French, at Paris! He truly says, that all the subjects have been *deflowered* (used up), and in seeking for a *virgin soil*, he has selected *syphilis!* (Vide New York Med. Gazette, 1842, vol. i., p. 393.) Assuredly, no *other disease* with which humanity is afflicted, has ever inspired the enthusiastic with such bewildering romance, and invested the subject with the charms of such delicious harmony!

I shall now proceed to investigate the more difficult problem, viz., *the origin of syphilis*. The exclusively *practical* physician may attach little value to the origin of diseases, and may disdain to trace the geographical march they have observed on the surface of the globe. But he who does not consider medicine merely as a profession—the most noble and honorable of all—but as an assemblage of scientific knowledge, endeavors to acquire precise notions of the history of those maladies which are presumed to have been little known to the ancients, or are more widely disseminated than formerly. Notwithstanding the agitation of the question of the origin of syphilis for more than three centuries, we are far from having arrived at a satisfactory solution of a problem no less interesting to medicine than to anthropology.

There are three principal questions in dispute: namely; *First*, was *Syphilis* known to the ancients? *Secondly*, was it imported from America to Europe? And, *Thirdly*, If not imported to the old continent, when and where did it originate? These questions we shall discuss *seriatim*.

1. *Was Syphilis known to the ancients?* As a preliminary matter essential to a correct appreciation of this question, it is necessary to maintain a clear conception of what is meant by syphilis. Now, it appears to me that this has been neglected by almost all writers; and the fact may serve to explain the origin of the contradictory opinions which have been successively advanced on the subject. It is well known that it is only very recently, that the admirable experimental researches of M. Ricord, have demonstrated the *non-identity* of gonorrhœa and syphilis. R. Carmichael says, that "*gonorrhœa* was not described as a symptom of *syphilis*, till half a century after the introduction of the latter into Europe." (Essay on Ven. Dis., Phil., 1825, p. 81.) I shall, therefore, use the term in the restricted applications which modern investigations have imposed upon it; and which are familiar to every member of this society. Some of the partisans of the antiquity of this disease, maintain that, if it could have originated from the licentiousness of the fifteenth century, it *might have been* generated a thousand times *de novo*, during the history of the world, by impure sexual intercourse. This conclusion is most unquestionably true. It is not denied, that there has always existed a *primeval capacity in the human system, under certain circumstances, of generating this malady;* but this does not touch the question at issue. For the inquiry arises—*Did this efficient concurrence of circumstances take place among the ancients so as to give origin to syphilis?* This is a point of strictly *historical research*, and which is, therefore, intangible by any system of *à priori* reasoning. We shall pass over the opinion of Raymond and the learned authors of the Asiatic Researches, who maintain that the syphilitic virus has always existed, though in a less degree, among the Chinese and Bramins in the warm latitudes of Asia. So also, with regard to the assertion of John Reinhold Foster, and Captain King, that it has always existed among the Otaheiteans and other inhabitants of the South Sea Islands. (Vide Dr. A. J. L. Jourdan's Hist. and Critical Obs. on Syphilis. Translated by Dr. R. La Roche, as appended to Cabanis' Essay. Philadelphia, 1823, p. 12, et seq. Also, pp. 105 et 107.) The historical, chronological, and traditionary evidences on which they rest, are too meager and incomplete, to warrant any conclusive or satisfactory deductions. We shall, however, confine ourselves to the question of the *European* origin of syphilis. I trust that it will be made manifest in the sequel, that the supporters of the antiquity of this disease have grounded their arguments principally upon the latitude afforded them by the *indefiniteness* of the term *venereal;* and more especially, upon the presumed *identity* of gonorrhœa and syphilis; which are *now* known to be two essentially distinct affections. In the strict etymological interpretation of the term *venereal*, there can be no question that *such diseases* must have been known and recognized from the remotest antiquity.

M. Ricord judiciously observes, in commenting on the memoir of M. Donné, "that there is a want of precision which may lead to error; for in syphilography, the term *syphilitic* cannot be confounded with that of *venereal;* and yet they are used by Donné in the same sense." (Vide M. Ricord's Treatise on Ven. Disease. New trans., New York, 1842, p. 34.)

It would, indeed, be an unreasonable and unwarrantable exception to a universal law of nature, if the *genital* system of man were not liable to a variety of diseases. Excesses in the pleasures of Venus, have produced at all times, as they do at present, certain forms of gonorrhœa or blennorrhagia, and their baneful consequences, as excrescences of various species on the genitals, and other accidents arising from them.

There can be no question but that prostitution has, in all ages, been productive of diseases of the generative organs; and that they always have had a bad reputation, is manifest from the satires of Horace, Juvenal, and Martial, among the Romans, and the works of the libertine Francis de Villon, and the Latin ode, addressed to Priapus, by Pacificus Maximus, among the authors of the middle ages. From the reign of Charlemagne, *houses of pleasure* were established in most of the large cities of Europe. Jane, countess of Provence and Queen of the two Sicilies, who was celebrated for her amorous adventures, established in the city of Avignon, in 1347, a house of prostitutes, with an ordinance, compelling them to submit to examination every Saturday, to ascertain whether they had contracted any lewd disease. Similar regulations existed in London as early as 1162, according to Mr. Beckett. (Jourdan, op. cit., pp. 46, 55, 64, 65, 66, et seq.)

Hence it is a miserable play upon words to infer, that the *specific affection*, syphilis, *must also* have existed from time immemorial. It is to confound all affections of the organs of generation, with one which is the result of the application of a *specific* contagion.

A few of the advocates of the ancientness of this disease, have imagined that the miseries of Job were nothing more than the manifestations of the symptoms of secondary syphilis! A more striking and convincing illustration of the futility of all attempts at drawing definitive conclusions from such highly figurative and metaphorical descriptions, could not be afforded, than the fact that a modern physician, after the most patient and careful investigation of the medical literature of the Bible, concludes that the Hebrew poet was afflicted with *small-pox!* (Vide Medica Sacra, by Thomas Shapter, M. D.; London, 1834; as cited by Stewart, on the Diseases of Children. New York, 1841, p. 436.) Certain prohibitory and preventive statutes prescribed by the Jewish legislator, as recorded in Leviticus (xv. v. 2—23), have been conjectured to have reference to a contagious discharge from the urethra. Hippocrates speaks of suppuration of the genital organs, in connection with ulcerations in the mouth. Galen, in his Commentary, describes an *eating ulcer* of the genitals. Oribasius, Aëtius, Paulus Ægineta, and Actuarius, among the Greeks; Celsus, Pliny, and Cælius Aurelianus, among the Romans; Rhazes, Avicenna, Ali-Abbas, Avenzoar, and Albucasis, among the Arabians; all these describe, with more or less fullness, clearness, and sagacity, many derangements of the animal economy, which have been thought to bear a marvellous resemblance to syphilis. They speak of eating sores of the prepuce and glans; puriform discharges from the urethra; cancer and gangrene of the penis; enlargement of the inguinal glands; tumefaction of the testes; abscess, pustules, and gangrene of the vagina; fistulæ of the perineum and scrotum; strictures in the urethra; condylomatous tumors near the anus; warts on the penis and labia, and several other local affections of a similar character. (Vide Dr. A. J. L. Jourdan, op. cit., p. 45, et seq.) The frequency of ulcers on the genitals, not arising from the poison of syphilis, is fully proved by the testimony of authors who wrote on the subject previous to the latter part of the fifteenth century, and who could not fall into the modern error of imputing every ulcer on the genitals to that source. Celsus describes eight species of ulcers to which the organs of generation are subject; three of which are at present as common as the syphilitic ulcer. (Vide Celsus, Edin. ed., 1809, p. 330 to 335.) The *bubo* was accurately described by Guillaume de Plaisance, who wrote in 1343. (Vide Ricord, op. cit., p. 29.) Now, I think it must be acknowledged by every unbiassed mind, that *not one, or in fact all of the symptoms above enumerated*, are very strikingly indicative of the disease which we *now* call syphilis. There may be some analogy to *gonorrhœal* affections in the diseases described by these authors, but assuredly none to those which are *genuinely syphilitic*. R. Carmichael asserts, that "there exists the strongest evidence, in the writings of all medical authors, about the year 1500, that syphilis was a new disorder, and baffled the skill of the most eminent physicians;" but very properly concedes, that "infectious ulcers on the organs of generation" prevailed, "long previous to any knowledge of syphilis." (Vide op. cit., pp. 22 and 30.)

But the partisans of its antiquity go further. They assert that Rhazes mentions an ulcer of the penis produced by the "*accensionem mulieris supra virum;* that sundry authors who flourished between 1270 and 1470, mention ulcers and pustules of the penis as contracted by *lying with foul women.* (Vide Druitt's Modern Surg., Am. ed. Philad., 1842, p. 189.) The following are a few of the authors who flourished at this epoch, and are cited by Astruc as containing passages bearing on the subject, viz., Gulielmus de Saliceto of Placenza, Lanfranc of Milan, Bernard Gordon of Montpelier, Guido de Cauliaco, Valescus de Taranta of Montpelier, and Peter de Argeleta of Bologna. But none of the affections treated of by these writers can be called syphilitic in the proper acceptation of that term. (R. Carmichael's Essay on Ven. Dis., by Emerson. Phil., 1825, p. 20.)

But it is quite manifest that such vague expressions cannot be considered sufficient to establish the validity of the claim to antiquity. The strongest and most vaunted arguments brought forward by the champions of antiquity, are contained in two papers presented by Mr. Beckett to the Royal Society in 1717 and 1718. (Phil. Trans., vols. 30 and 31.) The whole of his arguments are based upon the presumed *identity* of gonorrhœa and syphilis. He contends that as early as 1162, certain enactments were extant in England, providing against *the perilous infirmity of burning*. And, moreover, that a MS. in Lincoln College, Oxford, written by Thomas Gascoigne, Chancellor of that University, and dated 1430, states that some men had died of diseases caught by *frequenting women*. Pliny the younger relates an anecdote of a woman seeing her husband affected with ulcers on the genitals, and despairing of a cure, rushed with him into the lake Como. Josephus informs us that Apion died of an ulcer on his genitals. Herod, king of the Jews, according to the Hebrew author, met with the same fate. But neither Pliny nor Josephus ascribes these diseases to *intercourse with women*. The cruel monster, the Emperor Galerius Maximus, died of ulcerations of the genitals and fistulæ in perineo; the whole of his body exhaled a most offensive stench. (Vide

Druitt, op. cit., p. 190, and Jourdan, op. cit., p. 66.) But, under any circumstances, these historical cases may be considered doubtful; for the *lice* found between the hairs of the eye-lashes (the phthiriasis of the ancients), and below as well as above the cuticle in general, have been regarded as the reputed cause of the death of Plato, of Ennius, of Sylla, of *Herod*, and many other highly respectable men of antiquity. (Fletcher's Elem. Gen. Path., Edinb., 1842, p. 219.)

Allowing the supporters of the antiquity of syphilis the full force of the arguments drawn from the ancient authors, it would, notwithstanding, require the application of the most subtle dialectics of the antiquary to eliminate *such a disease* from these records. It is true that ulcers and pustules on the genital organs and sundry discharges, were not unknown; but still, "neither in Celsus, nor any other ancient writer, do we find mention that such maladies were *solely, or even frequently, the produce of sexual commerce;* or that they were peculiarly *difficult to heal;* or that they were frequently, or, indeed, ever, *followed by constitutional diseases.*" (Druitt, op. cit., p. 190). As an offset to balance the conclusions which have been deduced from the historical investigations of Mr. Beckett, I shall adduce the very *recent* researches of Professor Simpson, of Edinburgh. Professor Simpson has cited the official edicts of the Aberdeen magistrates, and of the King's privy council, respecting the new "infirmitey," issued during the year 1497, with various casual notices of the distemper from the contemporaneous writings of Dunbar, Lyndsay, Inglis, etc. Dr. S. alludes to an entry in 1502–3, in the privy-purse expense-book of Elizabeth, queen of Henry VII., as containing the earliest notice of the disease in *England.* The Aberdeen edict was dated about four years after the malady appeared in Italy, and is remarkable as ascribing the dissemination of it to impure sexual intercourse. Lastly, Professor Simpson proceeds to show, from the old data which he has adduced, that syphilis was *new* to this part of Europe at the date of the edicts; and that it was hence different, on the one hand, from *gonorrhœa*, and on the other, from the *leprosy* of the middle ages—both of which affections *were well known in Scotland before the era in question.* (Vide Lond. et Edin. Monthly Jour. Med. Science, as cited in New York Lancet, vol. i., p. 400. 1842). In short, even the most zealous defenders of the antiquity of syphilis have been compelled to admit that the disease which desolated Europe at the close of the fifteenth century, was, at least, a *new and virulent variety*, or modification, of the supposedly ancient malady.

In justice to the erudite Dr. A. J. L. Jourdan, it is proper to state in this connection, that he has deduced opposite conclusions with regard to the *antiquity of syphilis*, from the historical researches which he has made, and to which I have been so largely indebted; but his opinions accord with my own on every *other* point. I think, however, that a critical examination of the testimony which he has adduced on this head, shows that an inordinate zeal to support a favorite hypothesis has led him to confound *syphilis* with *other diseases* of the generative apparatus. At the conclusion of his essay, an acknowledgment is made, that the *contagious venereal affections* which were known at all times *among civilized nations*, are *very different from the epidemic of the fifteenth century.* (Op. cit., p. 107.) If the *syphilis* of the present day be identical with the above-mentioned epidemic, our deductions are, after all, not very discordant.

From what has been said on this point, I think we are justified in concluding this branch of our subject, by adopting the strong and emphatic language of Sir Charles Bell. He observes—" The Greek and Arabian physicians were accurate observers and good historians. Could they have failed to notice a disease characterized as this is,—death through stages so horrible? In the genitals, chancrous ulcers and *verrucæ;* buboes in the groin; wide-spreading deep sores; upon the skin, yellow and livid blotches; pyramidal scabs, and under them corroding ulcers; pustules and ulcerated tubercles around the temples and forehead; the bones of the palate lost; the lips, eye-lids, and nose swollen, distorted, and ulcerated; the hair fallen; the human features and the human voice lost; and the unfortunate victim racked with pains in the bones, succeeded by nodes and exostosis. Could a disease so horrid be overlooked? About the close of the fifteenth century the disease became universal. In a single life-time, there appeared a hundred books upon this disease, and not an allusion to it before." (Vide Dunglison's Am. Med. Library. Sir C. Bell's Institutes of Surg., p. 342. Philad., 1840.)

John de Vigo describes the chancre, or venereal pustule, as being " sometimes of a livid color, sometimes black, and sometimes whitish, *with a callosity surrounding it*." This writer witnessed the *outbreak* of the disease, and the characteristic mark did not escape his observation. (R. Carmichael's Essay on Ven. Dis., by G. Emerson. Philad. 1825. p. 21).

2. *Was Syphilis imported from America?*

It is admitted, on all hands, that toward the end of the memorable fifteenth century, Europe was invaded by a disease which on all sides spread alarm, horror, and death. Marcellus Cumanus, who served with the Venetian troops under Charles VIII., in the campaign of 1495, was the earliest author who wrote concerning the history and cure of syphilis. (Vide Hennen's Principles of Military Surg. 1st Am. Edit. Philad., 1830, p. 384). A reflection that very naturally offers itself, when we meditate with impartiality on the history of syphilis, is, that it is certainly an unaccountable anomaly in the annals of human credulity, that the opprobrium of having originated such a disease, should have been so long fastened upon America. Indeed, the very idea, that a disorder arising from the grossest debauchery and obscenity, could have first developed itself among a people inhabiting the forest, and scarcely in the infancy of civilisation, is, in its very inception, *primâ facie* improbable. In some instances, however, erroneous opinions become so firmly rooted, that, for their eradication, the greatest struggles are necessary, and often will we find even the strongest efforts of reason to fail, against the power of habit, which always operates in their favor.

In the subjoined historical abstract, I have taken Dr. A. J. L. Jourdan as my guide, who has traced up the chronological details of this subject, with a degree of industry, accuracy, research, and erudition, which is absolutely astonishing. The first writers in Europe who described syphilis, were far from considering it of transatlantic origin.

At that period, the disease was attributed by many to a *celestial influx, or malignant conjunction of Saturn and Mars in the sign Scorpio*, or some other analogous astrological nonsense; by some, to *Divine vengeance*, some to an *earthquake*, and others to a *malignity of the air*, caused by an overflow of the Tiber; but *not one*, for the first twenty-five or thirty years, ascribed to it an American origin. (Druitt, op. cit., p. 191.) Fracastorius ascribed it "to the different constitutions of heaven and stars, which but seldom happen, but may effect great matters when they do coincide." (Eberle's Prac. of Med., 4th ed., Phil., 1838, vol. ii., p. 503.) Matern Berlen, a clergyman of Ruffach, assigns it a very different origin; declaring it to have been a punishment inflicted by the Almighty on Charles VIII. for having carried off the Duchess Anne of Bretagne from the Emperor Maximilian, to whom she had been betrothed. (Dr. Good, op. cit., vol. ii., p. 91.) Leonhard Fioravanti, the Italian alchymist and empiric, propagated a still more singular fable on the origin of this affection. He says that during the famine caused by the siege of Naples,* the soldiers eat some articles prepared from *human flesh*, which soon affected them with syphilis. What appears most remarkable is, that Lord Bacon put faith in this absurd story, and even endeavored to render it still more plausible. Even later, in the year 1639, Peter Benoist, professor at Montpelier, maintained that syphilis owes its origin to anthropophagy. (Dr. Jourdan, op. cit., p. 9—10.)

In 1680, Samuel Janson, who had resided many years in the West Indies, without noticing syphilis to be there endemic, advanced the extraordinary hypothesis, that it was carried to the New World by the slaves from Africa! What is certainly very unaccountable, is, that it was embraced by Sydenham and E. Blancardus, and even enlisted the great Boerhaave, by whom it was defended with great warmth in 1751. This idea is irrevocably overthrown by the fact, that slaves were not brought from Africa to America previous to 1503; at which time the disease was prevailing all over Europe. (Jourdan, op. cit., p. 9.) Van Helmont broached the ridiculous idea that the disease had originated in America from the intercourse of the Indians with brutes! This was supported by Laurent Roberg, John Linder, and Heydentryk Overcamp. Joseph Xavier Bechman thought the Jews contracted it in Egypt during their captivity, and carried it to Palestine, whence it extended to the Christians during the crusades. This is in opposition to chronology, history, and reason. (Jourdan, op. cit., pp. 36 and 37.)

It is somewhat amusing to read the numerous hypotheses which have been broached by the syphilographists of the French school, to account for the manner in which the syphilitic virus is propagated. Thus, M. Bru declares that it is only the *mode* (leaven) which is inoculated, and that "the virus or pus is only the consequence of the neutralization" of the aforesaid *mode;* that the venereal action is the result of its combination with a substance "of a nature to set the phlogiston in action, since its first product is inflammation;" and that the afore-mentioned *mode* is "inoculated by virtue of a kind of electrification," "or some other modification of elementary fire altered and changed under a form of expansion." What this *mode* is, if there be such an entity,† is not rendered excessively clear, even by the luminous reasoning of M. Bru! M. Caron maintains "that the origin and contagion of the venereal virus are a species of conception, and not the result of a simple intersusception, or absorption of a virulent fluid;" that it is "not a virus which is transmitted," but an "occult vice"—an inseparable "abstract essence." Next, M. Richond des Bru boldly affirms that every phenomenon can be explained without admitting such "a chimerical essence." (Vide M. Ricord's Treatise on Ven. Disease. New Trans. New York, 1842, p. 8 to 20.) Lastly, the researches of M. Donné have induced him to conclude, that the microscopic animalcule, the *vibrio lineola* of Müller, discovered by him in the matter of chancre and inoculated syphilitic ulcers, and those peculiar infusoria found in the pus of syphilitic vaginitis, and called *trichomonas vaginalis*, constitute the true contagious matter or principle. (Vide Ricord, op. cit. supra, p. 32 to 41.) As other microscopic observers, especially Henle and Gluge, have not found the *vibrio* in clean-kept chancres, and as they are absent in buboes and chancres from which M. Ricord produced syphilitic ulcers by inoculation, it cannot be regarded even as diagnostic of syphilis, and much less as the matter of contagion. The *trichomonas* has still less claim to be considered the contagious material. (Vide Fletcher's Elem. Gen. Path., Edin., 1842, p. 76.) This parasitical or entozootic hypothesis concerning the propagation of syphilis is not original with M. Donné. It was adopted by Abercomb, Hartsœcker, Calmet, and Deidier. M. Deidier asserts that it is demonstrated by Calmet, that the *lepra* of the ancients was produced by small living worms. He suggests whether the worms of the ancient lepra, which *were furnished with large teeth to gnaw flesh and stones*, might not, in the course of time, have changed their character, after the manner of the metamorphosis of the lepidopterous insects? "Or, perhaps," he says, "the worms of the lepra, which were gnawing insects, became aquatic from the development of their swimming membrane." By means of this hypothesis, M. Deidier explains why syphilis has become more tractable, and why mercurial remedies are so efficacious, since "all species of worms and ova are extirpated by mercury." (Vide M. Deidier's Dissert. Med. sur les Malades Vén., p. 13. Paris, 1770, as cited by M. Ricord, op. cit., p. 41.) According to Dr. Jourdan, this last opinion was advocated by A. Hauptman, Christian Lange, David Overcromby, Nicholas Hartsœcker, A. Calmet, A. Deidier, Herman, Athanasius Kircher, and Paul Juch. (Op. cit., p. 36.)

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* Fioravanti has committed a historical blunder at this point; for Naples, at the time alluded to, was besieged neither by the French nor Spaniards. The French troops entered and left that city without encountering the slightest opposition.

† M. Ricord declares that it is "to be considered an entity in the same degree as the peculiar principle of hydrophobia, the venom of the viper, the specific cause of the small-pox," etc. (Op. cit., p. 30 et seq.)

Such was the state of things, when in the year 1518, twenty-five years *after* the appearance of the disease in Italy, the opinion was suddenly advanced by Leonhard Schmauss, a German physician, that it had been brought from America. The year following (1519) the Chevalier Ulric Van Hulten, who afterwards became so celebrated for his zeal in the cause of Luther, his persecutions, and for the sarcasms thrown against him by Erasmus, and who, moreover, was tormented with the horrors of syphilis *for nine years*, adopted the opinion of Schmauss. His celebrity among the learned, and his elegance of style, contributed towards its diffusion. (Jourdan, op. cit., p. 7.) The opinion, however, would in all probability have sunk into merited oblivion, had it not pleased the Spaniard, Oviedo, in the years 1525 and 1535, to defend and propagate it, merely from motives of personal interest. The tone of assurance which he assumed, and his favorable situation, induced many persons to embrace his opinions; so that, in the space of fifty years, the American origin of syphilis was considered as one of the most authenticated and incontestible facts in history. (Jourdan, op. cit., p. 8.) Nicholas Massa, Leonhard Fuchs, J.

B. Montanus, Vidus Vidius, Gabriel Fallopius, J. Fernelius, Francis Renner, J. Crato Craftheim, Peter Lowe, Hercules de Sassonia, Eustachius Rudius, John Calvo, Andre de Leon, Fabricius Hildanus, Martin Lister, and many others, have been enumerated as the advocates of Oviedo's syphilitic romance. (Jourdan, op. cit., p. 8.) Nevertheless, in the midst of this general belief, some authors, and especially Van Helmont, discarded this preposterous notion. Finally, however, a man, whose merits have been greatly exaggerated, but whose vast learning and great patience in historical researches cannot be denied, undertook to defend the popular opinion upon philosophical grounds. I allude to Dr. J. Astruc. Convinced beforehand, that syphilis had been brought from America, and that it had not been propagated by the French, he wished all to be subservient to his views. He adopted implicitly the stories of Oviedo; he rejected as inaccurate and false, the observations of those who contradicted him; from garbled extracts, he drew erroneous conclusions, and he even did not scruple to commit a number of chronological errors, much less pardonable in him than any other individual. His design succeeded, and his historical romance on syphilis was universally applauded, and soon boasted as many defenders as readers. Haller, Van Swieten, Robertson, Cullen, Turnbull, Bertrandi, and a host of others, adopted and supported it. Less partial observers, however, among whom were Antony Nunnez Ribeiro Sanchez, Philip Gabriel Hensler, Kurt Sprengel, and ultimately Christian G. Gruner, far from being dazzled by the specious reasonings of Astruc, or borne down by his torrent of advocates, criticised, commented on, and refuted the work of their celebrated predecessor. During the controversy, Christopher Girtanner—the most recent defender of the American origin of syphilis—in the absence of valid argument, had recourse to the most violent invectives. (Jourdan, op. cit., p. 10—15). Such is a brief and imperfect historical sketch of the opinions entertained with regard to the origin of this disease.

From the unanimous silence of those writers who were eye-witnesses of the first outbreak of syphilis, not one of whom ascribed to it an American origin; from the fact "that neither Columbus himself, nor his brother, who left such accurate narratives of his voyage," makes the least mention of such a disease having been discovered among the natives, or prevailing among the crews of their vessels, which, moreover, must have incapacitated them for every kind of exertion; from these and other considerations, it might be presumptively inferred, that, the supposition of syphilis being imported from the New to the Old World, through the followers of Columbus, is exceedingly *improbable* and very repugnant to reason. (Thomson, Medico-Chirurg. Rev., Dec., 1821, p. 617.) By an analogous process of reasoning, Dr. W. Poyntell Johnson, of Philadelphia, justly concludes, that "the amount of probabilities is in absolute opposition to its American origin." (Vide Med. Examiner, Philad., 1840, vol. 3, p. 789.) But I go further, and maintain that history and chronology alike demonstrate the *impossibility* of this origin. Before entering into any details, it is indispensable to ascertain accurately the precise time at which syphilis manifested itself in Europe. To do this, it is necessary for me to anticipate much which ought properly to have come under my *third* division of the subject.

From a careful analysis of the writings of contemporaneous authors, the following deductions have been drawn. According to Massa, J.

Cataneo, Peter Pinctor, J. Burchardi, and E. Capreoli,* syphilis already existed at Rome and in Italy, in 1494; according to N. Leoniceno B. Fulgosi, Mark A. Sabellico, Stephen Infessura, and P. Delphini, at Rome and in Upper Italy, in 1493; finally, according to Fulgosi, in Upper Italy, in the year 1492. Infessura's testimony is positive, and has never been called in question; and he fixes on the *month of June of the year* 1493, as the epoch at which this disease manifested itself at Rome. (Vide Jourdan, op. cit., p. 19, et seq.) Christopher Columbus, on his first return to Europe, arrived at Valparaiso, near Lisbon, on the 4th of March, 1493. He remained nine days with John II., king of Portugal; he again set sail and reached Seville on the 15th of the same month; and at last arrived by land at Barcelona about the middle of April. (Jourdan, op. cit., p. 24.) Girtanner maintains, on the authority of the assertion of Oviedo, that syphilis was carried to Italy by the troops of Gonzalvo of Cordova.

Girtanner places great reliance on the testimony of this historian, from the circumstance that he was in Spain when Columbus returned, and went himself several times to the West Indies, and there filled the most important offices. In view of a few historical facts, this evidence is greatly weakened. Gonzalvo Ferdinand Oviedo was born in 1478. Consequently, *he was only fifteen years old*, when Columbus returned from his first voyage in 1493. *He was not sent to St. Domingo until* 1513; that is, *until twenty years after syphilis had broken out in Italy*. His history of the West Indies was *first* published about the year 1525. (Dr. Jourdan, op. cit., p. 35.) Can his testimony balance that of contemporaneous physicians, whose judgments had been matured by age, study, and experience?

Now, we have already proved from the most accurate chronological researches, laying aside all authorities of a dubious nature, that the disease was raging at Rome and in Italy, about the month of June, 1493. This incontestible fact, by itself, excludes the *possibility* of its having been carried there by the army of Gonzalvo, as this general *arrived in Calabria as late as the month of May*, 1495. A part then, of the romance of Astruc and Girtanner, is, by itself, overthrown; for the disease had existed in Italy *two years* before that time. (Jourdan, op. cit., pp. 24, 25. Also, Dr. Good, op. cit., vol. 2, p. 91.)

Next, let us examine whether syphilis really existed in the West Indies and on the continent of America, at the time the Spaniards arrived there. This is the more necessary, as from the 4th of March, 1493, the period of the first landing of Columbus, to the month of June of the same year, there is an interval of three months, during which the supercilious caviller might insist, though with little probable semblance of truth, that the disease had been propagated from Spain to Italy. Girtanner cites the following authorities to prove that syphilis was endemic on the continent of America, especially in Peru and the Floridas, viz., Lopez de Gomara, Andrew de Leon, Augustin de Zaratte, and Jerome Benzoni. He seems to have forgotten that Peru was discovered as late as 1531, or thirty-nine years after the disease had been known in Europe. The same is true of the Floridas, " which were discovered by Cabot, seen afterwards, in 1512, by Ponce de Leon, by Cartier in 1535, by Ribaut in 1562, and by Landonnier, in 1564." Besides, Gomara is guilty of a gross and palpable contradiction when he asserts that the malady is a *new onė*, and yet says it is *syphilis !* (Jourdan, op. cit., p. 32.)

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* Gaspard de los Reies Franco, a Spanish physician, has collected several passages from these authors, showing that the disease was known in Italy anterior to March, 1493. Peter Pinctor says that it was raging at Rome in March, 1493. (Jourdan, op. cit., p. 23.) Nicholas Leoniceno says that it appeared in the memorable year of inundation; viz., according to Infessura and Benedetti, in October, 1493. (Ibid., p. 22.)

By tracing in succession the authorities which have been adduced in support of this opinion, weighing their respective titles, and marking with attention the degree of credit which they deserve, we shall behold the already tottering edifice of the American origin of syphilis, give way even to its very foundations. Oviedo is, as usual, the great authority on this point.* But the testimony of such a man is worth less than nothing, when it is considered, that Ferdinando Columbus, A. Herrera, De la Casa, and other *contemporaries*, accuse and *convict* him of the grossest falsehoods, contradictions, and inaccuracies. (Jourdan, op. cit., p. 27.) In fact, this tyrant had always made bad use of his power while in the West Indies, and was glad to report anything which represented the unfortunate people as wicked and dissolute, as a means of justifying his conduct. There is, consequently, no evidence of the disease having existed in America until the *third* voyage of Columbus, in 1498, when it was probably carried to St. Domingo by his crews ; and therefore, it was not before it had *prevailed in Europe for five years*. (Jourdan, op. cit., pp. 27 and 29.)

From the foregoing remarks it appears, that from 1518 to 1546, the American origin of syphilis was supported *solely* by the faith of Schmauss and Van Hulten, and the unproved and uncertain accounts of Oviedo ; but that it was ultimately rendered a medical dogma by Astruc. The principal arguments of Schmauss, Hulten, and Oviedo, are founded on the fact, that *guaiacum*† is indigenous to America ; although it was not brought to Spain until 1508. They urge the absurd and ridiculous notion that nature always provides an *antidote* in the vicinity of a poison ! (Jourdan, op. cit., pp. 26 and 34. Also, Encyc. Am., Philad., 1835. Art. Syphilis.) But besides, Peter Martyr, who was physician to Ferdinand and Isabella, and was actually at Barcelona when Columbus returned from his first voyage in 1493, does not say a word as to its American origin. (Druitt, op. cit., p. 191.) Indeed, even the advocates of the American origin of syphilis, have been compelled to abandon the argument grounded on the *first* voyage of Columbus, and to fall back upon his *second* return, that is, in 1496 ; but this period is too late, as we have already traced its existence in Italy in June, 1493. It has, therefore, been proved, beyond the possibility of a doubt, that syphilis was not derived from America.

The advocates of the American origin of syphilis, cite the writings of

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* Francisco Delgado, who wrote in 1529, Alysius Lobera, Andrew Vesalius, Jerome Cardan, A. Cesalpinus, and even in 1546, Jerome Fracastorius, the intimate friend of Oviedo, discarded the opinion of its transatlantic origin. (Jourdan, op. cit., p. 34).

† Guaiacum, a remedy once so much extolled in the treatment of syphilis, as to have acquired the appellation of *lignum sanctum*, was first introduced into Spain by Gonsalvo Ferrand, in 1508, who went to St. Domingo, and was cured of a long standing venereal complaint under the use of it. At one time it sold for seven gold crowns per pound! (Pereira's Elem Mat. et Therap., 2d Ed. Lond , 1842, p. 1653.)

Diaz De Isla, Ferdinando Columbus, the son of the Admiral, Gomara, A. Herrera, and the celebrated Francis Guicciardini, as authorities on this question. According to Welsch, Diaz De Isla's work was not written until 1555. He could not, therefore, have been an ocular witness. Columbus does not mention that the disease affected the colony at St. Domingo, *until the third return of his father in* 1498. He notices in his narrative that the *natives* were subject to a *cutaneous affection*, called by them *caracaracol;* but there is no reason to suppose that it was *syphilis.* Gomara wrote too late, having in fact copied the opinion of Oviedo. The same objection applies to Herrera and Guicciardini; the *former* wrote in 1600, and the *latter* was *only eleven years old* when syphilis invaded Europe. They both borrow incessantly from Oviedo. (Dr. Jourdan, op. cit., p. 28 to 32, and seq.)

In short, the whole purport of the vigorous attempt which was made in Europe, to fasten this opprobrium upon the New World, seems to be nothing more than a malignant echo of the absurd and ridiculous calumny, at one period so extensively credited, that the human species, and indeed the whole animal kingdom, had become entirely *degenerated* in America!

3. *When and where did Syphilis originate?*

After what I have already remarked under the *second* head of our subject, it will be unnecessary to adduce many observations on this point. Some authors maintain that the disease broke out several weeks *before* Columbus landed in March, 1493; that on his reaching Seville it had spread over Auvergne, Lombardy, and various other parts of Italy; and that, in the course of the ensuing summer, it was observed in Saxony, Brandenburg, Brunswick, Mechlenburg, and especially Strasburg, as many German writers concur in admitting; and even at Cracow in Poland, according to some. (Dr. Good, op. cit., p. 91.) We have already shown that there exists *positive* historical evidence that syphilis was raging at Rome in June, 1493;* but how long *before* this epoch it prevailed in Italy, it is hardly possible to determine with absolute certainty. The severe edict of the parliament of Paris, dated March 6th, 1496, proves that it had been raging in that capital *two years;* and that consequently it was known *there* in 1494; yet the conquest of Naples by Charles VIII. was not effected till February, 1495! (Jourdan, op. cit., p. 18 and 35. Also, Cooper's Surg. Dict., N. Y., 1832. Art. Venereal Disease.) Still, it is alleged that his soldiers took the disease from the followers of Columbus! The edict published by James IV., on September 22d, 1497, shows that it existed at Edinburgh at that date. (Vide supra; also, Jourdan, op. cit., p. 35.)

Dr. Parr supposes that the origin of the disease is more connected with the expulsion of the Moors from Spain. (Med. Dic., Philad., 1819. Art. Lues Venerea.) Dr. Jourdan deduces the same conclusion from his laborious researches. He observes,—" When we compare the testimonies of the most veridical historians and physicians, we think it impossible to doubt its being derived from the *Marranes*" (an opprobrious epithet, signifying "hog," applied to the Jews and Moors), "who were expelled from Spain before the discovery of America." (Op. cit., p. 99.) These unfortunate wretches, who left Spain in the year 1492, to the number of 170,000 families, retired, for the most part, to the northern shores of Africa, where 30,000 of them were destroyed by a peculiar and most fatal epidemic. Many of them went to Italy, and encamped near the Appian gate at Rome, living in the most disgusting filth, and in total privation of all wholesome food. Infessura, who first notices the ravages of syphilis at Rome, calls it *pestis Marranorum*. Beniveni, Benedetti, and Fracastorius derive it from Spain. Leo, the African, declares that the disease was unknown in Africa anterior to the landing of the *Marranes*. (Jourdan, op. cit., pp. 99 and 100.) At all events, the origin of syphilis, and the expulsion of these victims of avarice and intolerance, were coetaneous events; but whether they stand in the relation of cause and effect, will, probably, always remain undecided.

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* During its first ravages, syphilis seemed to attack the wealthy in preference, as did the *mentagra* described by Pliny. It is well known that it spared not one member of the family of Alexander VI, the incestuous father of the equally incestuous Cæsar Borgia. In consequence of this, James de Bethencourt called it *morbus magnatum.* (Vide Jourdan, op. cit., p. 103.)

Before concluding, I may be permitted to remark that, with regard to that horrible modification of syphilis, which scourged a great part of Europe during the close of the fifteenth century, it has been supposed that it is necessary to assume the existence of some other mode of propagation besides coition, to account for the extraordinary rapidity of its extension. The virulence of the disease, at the close of the fifteenth century, appears to have been really frightful, to judge from the descriptions of contemporary authors. Thus a German author of 1496, says: "It was a disease sent down from the citadel of the immortal gods on the French—a most horrid and terrible prodigy, unheard of, hated, and unknown—a disease repugnant to nature." (F. C. Skey's Lec. on Ven. Dis., Med. Intelligencer, vol. iii., p. 102. Philad., 1840.) Consequently, it has been supposed to have prevailed *epidemically* at that early period of its history; or else, in accordance with the observations of the writers of that age, that it was communicated from one person to another merely by the touch, wearing infected garments, etc. In truth, unless some cause of an analogous character be admitted, the propagation of the disorder throughout the continent of Europe in the short space of *two years*, would imply, or presuppose, an extent of licentiousness and a refinement of depravity, beyond the utmost bounds of credibility.

PART SECOND.

Critical Analysis.

Art. IX.—*Communication from the Board of Health of the City of New York, in Reply to certain Interrogatories relative to Yellow Fever, made by the Board of Health of New Orleans.* 1843.

Researches in Medicine and Medical Jurisprudence. By John B. Beck, M. D., Professor of Materia Medica and Medical Jurisprudence, etc. 1835. Article—" *On the Non-Contagiousness of Yellow Fever.*"

An Account of the Epidemic Fever which prevailed in the City of New York, during part of the summer and fall of 1795. By Richard Bayley. 8vo. pp. 160.

The Medical Works of Edward Miller, M. D., Prof. of the Practice of Physic, etc. Article—" *Report on the Malignant Disease which prevailed in the City of New York, in the autumn of* 1805; addressed to the Governor of the State of New York."

Remarks on the Yellow Fever of New York in 1741 *and* 1742. By the Hon. Cadwallader Colden. Written in 1743. Communicated by his grandson to the Medical Repository, third Hexade, Vol. II.

Extract from an unpublished Work on the Importation and Propagation of Plague and other Contagious Diseases. By Dr. Fergusson, Inspector-General of Army Hospitals. Article—" *Yellow Fever.*" Vide Edinburgh Medical and Surgical Journal, for July, 1843.

There is scarcely any medical subject of greater interest to the inhabitants of our Atlantic cities than that of the Yellow Fever; for, independent of the many valuable lives thus lost to the community, our commercial prosperity, when this disease prevails, or is reputed to prevail, is not only embarrassed at home, but also abroad by long and expensive quarantines. Under this view of the question, we conceive it to be our duty to make a permanent record of the subjoined paper, which, as an official document, is the only one that has appeared since 1822, with the exception of those of the present year. The following paper will explain itself:

" City of New York,
Board of Health, August 27, 1842.

" The following communication was presented by the President from the Board of Health of New Orleans, and referred to a Select Committee.

" New Orleans, 15th August, 1842.

" Sir—We have the honor to inform you that, at a recent meeting of the New Orleans Board of Health, the undersigned were appointed a committee to collect and report such facts as may tend to elucidate the question, whether Yellow Fever is to be considered of Domestic or Foreign origin, so far as regards the United States of America, and especially as relates to this city.

"Your city, we hear, has occasionally been visited by this disease. Therefore we take the liberty of applying to you for such information as may have led you to regard Yellow Fever either of Domestic or Foreign origin, and the advantages, if any, resulting from the strict enforcement of quarantine laws in preventing an invasion of this formidable malady.

"We are aware that we are asking at your hands the performance of a labor of no small magnitude. The apology we would offer for thus trespassing upon your time, is the deep interest, involving the lives of a large portion of the human family, found in the questions respectfully submitted to you. With high consideration and regard, your obedient servants, C. A. Luzenberg, M. D.,
J. Rhodes, M. D.

"To the President of the New York Board of Health."

"Board of Health, January 4, 1843.

"The Select Committee, to whom was referred the letter from the Board of Health of New Orleans, presented the following communication thereon, which was accepted, and directed to be transmitted to the Board of Health of New Orleans, and published in the public newspapers. Jos. R. Taylor, Clerk.

"New York, November 25, 1842.

"To the Committee of the Board of Health of New Orleans—C. A Luzenberg, M. D., J. Rhodes, M. D.

"Gentlemen—The communication which you did us the honor to make to the Board of Health of the City of New York, came duly to hand, and was referred to a special committee of the Board to report thereon. The undersigned having with all due deference considered the same, and concurring with your committee in the importance of the interrogatories embraced therein, take this, the earliest opportunity at their command, to give such views on the subject of your inquiries as may the better enable your Honorable Body to act in the premises, aware that every aid ought to be imparted to competent inquirers, in order the better to carry out improved legislation on that grievous pestilence which has so often afflicted both New York and New Orleans, as well as other prominent cities in the Union.

"The numerous records which have been made of the occurrence of yellow fever in the city of New York, more especially since the year 1791, up to its last invasion in 1822, have led the most cautious observers of the disease to look upon yellow fever as a disorder *sui generis*—a type or form of fever distinct from the ordinary bilious and intermittent fevers which occur among us; that it is characterized by a train of symptoms in no wise designating the febrile complaints which seem to be more especially the native products of our country: and these opinions of yellow fever are strengthened by the fact, that it demands a method of treatment which varies in many of its essential points from that which is found effective in that large class of disorders which are commonly grouped as the products of marshy emanations, of vicissitudes of weather, or of typhoid exhalations occurring in jails, prisons, and the like. The whole history of the yellow fever pestilence, from its invasion, or first attack, to its too often fatal termination, demonstrates this important therapeutical doctrine.

"Notwithstanding the force of this truth, the origin of the yellow fever among us has been the subject of much controversy, and long and acrimonious disquisition; many contending that the disease is a domestic production, arising from circumstances inherent in our climate, and depending for its creation upon peculiar combinations of local causes; and, indeed, it has been affirmed that our climate (that of New York) is the actual latitude of the pestilence, and that we need not look elsewhere for its birth. This view of the domestic origin of yellow fever has been sustained by many of our most eminent writers.

"On the other hand, there is and has always been among us, a body of practical observers, who, having encountered the disease in its most malignant forms, when it has assumed an unusual degree of virulence, as occurred in the years 1795, 1798, 1799, 1803, 1805, and in 1822, have strenuously contended in behalf of its exclusively foreign origin; that it was a disorder of a type essentially different from the febrile affections which are endemical to our country, and that its introduction among us has in all cases been satisfactorily demonstrated to have been from abroad, conveyed hither by shipping arriving from sickly ports, or sprung from vessels coming from distant parts and in a foul and pestilential condition. The greater immunity of the human constitution from a second attack of yellow fever seems also to give additional countenance to the theory of its more distinctive character.

"These two different and opposite opinions of the essential attributes of yellow fever have been maintained with all the bitterness of controversy, and much has been published on both sides by the respective contending parties. It would have afforded great satisfaction to the Committee to have laid before your honorable body the leading documents which have been printed on the subject; but they are not at this time within the command of the Committee. This circumstance is perhaps to be the less regretted, inasmuch as the New York Board of Health have ever exercised, amid all the severe trials to which they have been subjected, a strong, determined, and impartial judgment in the premises; listening with all due regard to the various representations made to them by the several parties or advocates, and exercising the powers vested in them by statutory law, so far as their capabilities enabled them, to alleviate the calamities incident to the existence of the pestilence when it prevailed, and removing every cause which seemed in any wise to aggravate the evil or give wings to the disorder. The undersigned believe they speak a language in uniformity with that which might be uttered by our citizens at large, that the Board of Health of New York have, on every recurrence of the yellow fever in the city, profited by the experience of those who have preceded them in the discharge of similar trusts in like emergencies in the metropolis; and the conviction is general and freely acknowledged, that at the present day, the salutary regulations which are adopted, as respects the improved condition of our medical police and our quarantine establishment, have proved a source of incalculable benefit to New York, in the saving of innumerable lives and in protecting those interests so dear to her as a mercantile emporium.

"Your Committee solicit from our Board, in an especial manner, to make known to your Honorable Board, 'the advantages, if any, arising from the strict enforcement of quarantine laws in preventing an invasion of the formidable malady.' We are ready to give answer to your important interrogatory in terms the most unequivocal, and we hope satisfactory. Our present quarantine regulations are the result of much experience and of repeated emendations. A copy of them we have ordered to accompany this letter; they will be the better understood when thus submitted to your full consideration. We have cogent reason to believe, that from defects in former statutes on this important subject, and, perhaps, from occasional relaxations in their enforcement, we have in some seasons paid a severe penalty. Since the rigid adoption of our improved code, we have congratulated ourselves upon our freedom from the pestilence; and the confidence we enjoy is strengthened in the contemplation that yellow fever is now known to the junior members of the medical profession only by name; our city having been exempted from this direful scourge for the unprecedented period of twenty years.

"Before we conclude this official communication to your Honorable Board, we feel obligated to state, as a further evidence of the value of our quarantine laws, as now enforced, that cases of yellow fever are almost every season brought up to our quarantine establishment, at Staten Island, and there subjected to the medical discipline of the medical officers of that institution. Yet by the regulations of our sanitary code, the city itself has entirely escaped the annoyance of even a sporadic case. Of the nature of these cases of yellow fever, which are at some seasons brought to the quarantine establishment, we may add the fact that instances of the extension of these cases to the attendants at the quarantine, have occasionally occurred; thus presenting still stronger testimony of the vast importance of our restrictive measures. No one could predict the evils which might flow from such cases being permitted to enter our city by shipping or other means.

"All which is respectfully submitted :

John W. Francis, M. D.,
Resident Physician.
A. Sidney Doane, A. M., M. D.,
Health Officer of Port of New York.
Wm. Turner, M. D.,
Health Commissioner.
Robert H. Morris,
Moses G. Leonard,
Charles P. Brown."

Although this document is open to several grave objections, yet we shall pass them over, inasmuch as our object is mainly to put it here on record as supplying a link in the historical chain of yellow fever in this city.

We shall also avail ourselves of the opportunity now presented, to make a correction in reference to Prof. John B. Beck, whom we innocently misrepresented in our last number, by a quotation from the "Cyclopædia of Practical Medicine," in which it was said that, in 1823, he made a public retraction of faith as to the contagion of yellow fever—a belief which, as appears from his "Researches in Medicine and Medical Jurisprudence." he had never entertained and never avowed.

> "It is in consequence of such representations," he says, "that the present paper has been looked upon by some eminent individuals, as a recantation of previous faith.* Proud as the author would be of the implied magnanimity of publicly retracting what observation and reason had shown him to be erroneous, he is not justly entitled to the compliment. That his prepossessions may originally have been in favor of the contagious character of yellow fever, he is not prepared to deny. Educated in a school in which this was the prevalent doctrine, how indeed could it be otherwise ? He is not aware, however, of having ever committed himself on this subject, and the whole amount of his recantation will appear from the paper itself. As an inquirer after truth, he refrained from forming any definite opinion on so important a subject, until he should have had the opportunity of personal observation. This opportunity occurred partially in 1819, when the fever prevailed in this city to a limited extent, but more particularly in 1822, when it prevailed more extensively, and furnished the amplest materials for making up a rational judgment."

In this paper, Prof. Beck confines himself exclusively to the question of the contagious, or non-contagious, character of yellow fever; and to be enabled to appreciate the force of his argument, the following brief history of the epidemic of 1822 becomes necessary :

> "The disease made its first appearance on the 10th of July, 1822, at the lower part of Rector-street, a small street opening upon the Hudson river. Three cases occurred on the same day, two of them at the house situated on one

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* De l'opinion des Medecins Americains sur la contagion ou la non-contagion de la Fievre Jaune, etc. Par N. Chervin, M. D., &c., p. 11. 8vo. Paris, 1829.

See also an able Essay on Yellow Fever, by I. Gillkrest, M. D., Deputy Inspector General of the Army. From the Cyclopædia of Practical Medicine, p. 30. London, 1832.

corner of the street, and one at the opposite house. In a few days several cases occurred at a neighboring house in the same street, and from these points it continued gradually to extend itself in all directions. About the 1st of November, when the disease terminated, the cause of the disease was prevalent over the whole of the lower parts of the city, extending northward as far as Chambers-street. The portion of the city thus affected, was denominated and currently known by the title of the 'infected district.' As the poison spread itself, the citizens removed before it, and the limits of the district were marked by barring up the streets. The spread of the disease was announced by the occurrence of cases just beyond these limits, and when these occurred, the barriers were extended correspondingly. The sick were in all cases removed from the infected parts, to other parts either of the city or of the surrounding country. The whole amount of cases that occurred, was about four hundred, of which about two hundred and thirty terminated fatally."

Having had much personal experience of the disease in 1822, which led to a positive and complete conviction that contagion had nothing to do in the propagation of it, Dr. Beck presented his views in a paper remarkable for the appositeness of its facts and the cogency of its reasoning.

"The believers," he says, "in the doctrine of the contagious character of yellow fever, may be divided into two classes. 1. Those who contend that the disease is contagious under all circumstances, and that it may as readily display this character in the pure and healthy air of the country, as it does in the confined air of our cities. 2. Those who admit that in the pure air of the country it is seldom if ever contagious, while in the impure and vitiated atmosphere of our cities it proves extensively so. Both classes, however, agree in this; that every case of the fever which occurs, must result from contagion, as they do not admit the existence of any other cause capable of producing the disease.

"As we wish to meet both these views of contagion, the following facts shall be arranged under two heads: Those which prove that the yellow fever of 1822 was not contagious in the pure air of the country: Those which prove that it was not contagious in the vitiated and impure air of our city.

"1. *Facts and Arguments which prove that the Yellow Fever of* 1822 *was not contagious in the pure air of the country.*

"(*a*) From the official returns of Dr. Joseph Bayley, Health Officer of the port, it appears that during the prevalence of the yellow fever in this city during 1822, seventy persons sick with that disease, were sent down to the Marine Hospital,* on Staten Island. Of this number, thirty-seven died, eighteen of whom had black vomit. The first of these patients was received into the hospital on the 13th of August, and died on the 15th. From that period until the final cessation of the fever, patients were almost daily carried down to this place.† These cases were regularly attended by the physicians and nurses of the establishment, not one of whom became affected with the disease; nor has a single case come to our knowledge of any person taking it, who was engaged in transporting the sick from the city to the hospital."

Our space will not allow us to follow Prof. Beck in the abundant details which he gives in support of this position; nor can we follow him in a similar investigation, establishing the same conclusion relative to the spacious dwelling-house at Kip's Bay, provided at the public expense, for the reception of such of the inhabitants from the infected district as were unable themselves to provide a refuge; nor lastly, can we do more than merely advert to the fact that among thirty-six cases of the disease contracted in the infected district, but which were not developed until after their removal into distant and different parts of the country, and of which no less than twenty-seven cases proved fatal, there was not a single instance in which the disease was communicated. Let it, therefore, suffice to give Prof. Beck's general conclusion:

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* Situated at the Quarantine establishment, about six miles below the city of New York, on the west side of the bay.

† A history of the proceedings of the Board of Health of the city of New York in the summer and fall of 1822; together with an account of the rise and progress of the Yellow Fever, which appeared during that season, and the several documents in relation to it, which were laid before the Board. Published by order of the Board of Health. New York, 1823, p. 132.

> "Let us now," he says, "pause and reflect upon the amount of testimony already advanced. It appears then, from the foregoing facts and statements, that upwards of one hundred persons, sick of yellow fever (about one-fourth of all the cases), lay in different parts of the country, without, in a single instance, communicating the disease. If it had been previously proposed to settle this question by actual experiments, we cannot conceive that any could have been suggested which would have been more satisfactory to all parties, than the very ones which actually transpired during the summer and autumn of 1822. That one hundred persons, sick of a disease highly malignant and contagious, located in different parts of the country, should not, even in a solitary instance, have communicated it to second persons, seems to us literally impossible; and we believe, that were it not for the influence of preconceived opinions and long-cherished theories, facts of this sort would come home to the mind of every man with a force perfectly irresistible. Aware of these facts, the contagionists, so far from abandoning their favorite theory, have invented new schemes for upholding it. One of the most popular of these at present is this, that Yellow Fever, although it may not prove contagious in the pure air of the country, yet is eminently so in the impure atmosphere of cities, &c. Whether any countenance was given to this doctrine, by the facts which were developed during the fever of 1822, we now propose to investigate."

In the second place, Professor Beck adduces facts and arguments which prove that the yellow fever of 1822 was not contagious in the impure air of the city; and he is not satisfied to expose the error of the affirmative of this doctrine by proving that it is not correct in fact, but proceeds to show that it is unphilosophical in principle.

> "If contagious effluvia emanate from the body of a person sick of a peculiar disease, they can be influenced by the surrounding air only in one of two ways. First, the surrounding air may serve simply as a medium of transmission. In this way the effluvia are diffused more widely than they would be in vacuo. It is evident, however, that here the contagion remains unchanged in its character, and produces its specific effects without any aid from the atmosphere, except that of enabling it to act at a greater distance from the sick body. Second, the contagious effluvia may enter into chemical combination with the surrounding atmosphere. An entirely new compound then is formed, the effects of which upon the human system must necessarily be different from those of the original contagion.
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> "These are the only possible methods in which contagious effluvia can be influenced by the surrounding atmosphere. Now, if we apply these propositions, and push them to their conclusions, they will be found to destroy completely the theory of which we are speaking. If the contagious effluvia enter into chemical union with the air, and form a new poison, then the same specific disease cannot be reproduced: this supposition, therefore, is inadmissible. If, on the other hand, the air serves merely as a medium for transmitting the poison to a greater

distance, then no reason can be assigned why, if you approach near enough to the sick body, contagion should not display itself in a pure as well as an impure atmosphere.

"Let us take another view of the subject. If a disease be contagious in one kind of air, and not in another, then it must acquire its contagious character from some peculiarity in the air in which it is so; and if this be the case, then the principle of contagion must exist in the air, and no reason can be assigned why the air itself should not, under these circumstances, produce the disease, independently of all sick and diseased bodies. This seems to us to be an inevitable conclusion from the premises; and to our minds, it appears most satisfactorily to do away the necessity of resorting to contagion to account for the origin and propagation of yellow fever. On these grounds, we think the popular doctrine which supposes that this disease may be contagious in one species of atmosphere, and not in another, is unphilosophical."

Not, however, content with abstract reasoning alone, Professor Beck again appeals to facts. He first refers to the *uninfected* parts of the city, showing that among upwards of a hundred persons lying sick of yellow fever beyond the limits of the infected district, not a single instance was known in which the disease was communicated to a second person. So notorious was this fact, that even those most zealous on the side of contagion, were forced to acknowledge its truth.

We now come to the question, whether the disease was contagious in the *infected* portion of the city.

"It is here, after all, that he makes his principle stand in defence of contagion. It is here, in fact, that all the contagionists are obliged to take refuge, or abandon their doctrine altogether. Let us see whether it can be defended with more success here, than in other places. For the purpose of simplifying the subject, we shall first state the question at issue. The contagionists assert, that after the first cases of the disease at Rector-street, every subsequent case was the result of some communication with those already sick; and that, as cases multiplied, the air itself became so impregnated by contagious exhalations from sick bodies, as of itself to produce the disease in those exposed to it, without immediate or direct connection with the sick. The non-contagionists, on the other hand, assert that the disease did not spread in consequence of any communication with the sick, and that the infection of the district was owing to other causes than exhalations from those sick of the fever.

"From this statement, it appears that both agree in one thing, viz., that the air in a certain portion of the city, called the 'infected district,' was actually impregnated with a certain poison capable of producing yellow fever in those exposed to it, without their having any immediate communication with the sick. This being agreed upon, the only remaining question to be solved is this: was the poison, so impregnating the air, and producing such effects, an exhalation from the bodies of those who were sick with the fever, or was it not? If it was, then the contagious character of the disease is established. If it was not, then the disease cannot be considered as contagious.

"Our reasons for believing that the contamination of the air was not owing to any exhalations from the sick, are the following:

"1. It has already been shown, that not merely in the pure air of the country, but even in the most impure and unhealthy parts of our city, patients sick of the yellow fever, in 1822, were uniformly approached with perfect impunity. The *air*, therefore, in the infected district, must have been much more venomous than the contagious poison itself, coming off directly from diseased bodies. That is, the poison diluted in atmospheric air, must have been more powerful than the pure, unmixed poison itself! A proposition, absurd in itself, and contrary to all analogy. We infer, therefore, that as the *air* of the infected district was more deleterious than actual contact with the sick, the poison existing in the air must have been some other than effluvia from the bodies of the sick.

"2. If the infection of the air depended upon emanations from the sick, then it should have extended *pari passu* with the sick and the dead. That this was not the case is notorious. That it was not so out of the infected district, is proved by the fact already established, that no case of communication was known; and that it was not so in the infected district, is equally evident from the circumstance, that the limits of the district were only known and defined from persons being taken unexpectedly sick, without, in many instances, any sort of intercourse with those already affected.

"3. The gradual and measured extension of the limits of infection proves conclusively that it must have originated from some other cause than contagion. So regular was this extension, that attempts were made, and with apparent success, to calculate its daily progress. From the point at which it first commenced, it extended very nearly to equal distances in all directions. Can any man, of common reflection, contend that such an effect could follow from patients scattered in different directions?

"4. But what settles this beyond peradventure, is the fact, that by far the largest number of the sick did not lie in the infected district at all. From the official list published by the Board of Health, it appears that in all, not more than about one hundred and thirty lay sick in the infected district during the whole of the prevalence of the fever, while about one hundred and seventy-two lay sick in different parts of the rest of the city. As, therefore, one hundred and seventy-two patients did not infect the air in which they lay sick, it is reasonable to conclude, that a *less* number would not produce such an effect; and, therefore, that the infection of the district was not owing to the sick.

"From all these reasons, we conclude, that the infection of the air was not owing to contagious exhalations from the sick, but to some other cause. What this cause was, it is not our business at present to inquire. That it was a gaseous poison, is evident—that it was permanent in its action is also clear from its gradual extension until the appearance of frost. Whence or how it originated, is a question very far from being settled, the investigation of which we may, perhaps, take up at some future period."

As we also noticed, in our last Number, the public retraction of the celebrated Dr. Rush in reference to the same question, we will here make a permanent record of the circumstances connected with that event. The account is by Professor Caldwell, of Louisville, Kentucky; and in making this extract from a private letter, we trust that we have not exceeded the bounds of propriety.

"From your last letter and last Journal, I have learnt that you have been recently engaged in the same sort of contest, respecting the same topics, and with the same success, which fell to my lot, six or seven times in Philadelphia; and at a period, not a few years before you were born. I allude to your late inquiries after, and your excellent and conclusive analysis of, the Rondout epidemic, or endemic, according as the one name or the other may be most applicable to it.

"I commenced my yellow fever campaign in 1793, when a private pupil under Dr. Rush, and did not discharge my last shot on the subject until about twelve or fifteen years ago, or perhaps less. I assumed and defended, from the beginning, the positions of domestic origin and non-contagiousness; and therefore non importability. On the subject of the contagiousness of the pestilence, my great preceptor was inexorably opposed to me, until about the year 1807, when he gave in his adhesion to the true doctrine, and never afterwards opposed it.

"In relation to this point, nineteen out of twenty, or perhaps a much larger proportion of physicians and others, are deceived. They believe Dr. Rush to have been the author of the doctrine of non-contagiousness. No such thing. He was the author of domestic origin. But, for many years, he was the most flagrant antagonist I ever knew—and did not, I say, surrender the error, until about the year 1807. He surrendered it, moreover, to Dr. Physick and myself, in the course

> of a long and earnest conversation, and, on our part, of a very energetic remonstrance.
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> "When the Doctor pronounced his abandonment of the doctrine of contagion, I begged him to commit it to paper. He did so, in a few lines, which I despatched by the first following mail, to the Editors of the New York Medical Repository, and had it published in the next number of that excellent periodical. This is a veritable account of Dr. Rush's adhesion to, and rejection of, the groundless notion of yellow fever contagiousness."

We have recently looked over some of the older writers of this city upon the subject of yellow fever; as, for instance, Dr. Richard Bayley's account of the epidemic of 1795, and Dr. Edward Miller's Report upon that of 1805, addressed to the Governor of the State. What has struck us as the most prominent feature in these papers, making due allowance for the additional light thrown upon many collateral points in the interim, is the clear manner in which they review the facts which came under their observation, uninfluenced by the prejudice of preconceived opinions. After adducing incontrovertible facts showing the non-contagious nature of yellow fever, Dr. Bayley says:

> "In confirmation of this, we have the declaration of the Medical Society, in answer to a letter from Governor Jay, dated 24th of September, 1795:—'The collective opinion of this Society, as the result of attentive observation, is, that the fever is not specifically contagious; and we are confirmed in this opinion from the following powerful considerations, that neither relations, nurses, nor physicians, have, save in one or two doubtful cases, been infected by attending on those who have either recovered or died of the disease.'"

In reference to the epidemic fever of 1795, Dr. B. further remarks:

> "It will be proper to remark here, that the epidemic of last year is not a new disease. It is established upon respectable authority, that a disorder, in every respect similar to the one which made its appearance in this city in July last, and in one instance attended with the symptom of black vomiting, occurred in Water-street, in the neighborhood of Dover-street, four or five years ago, and more or less every year since; and was particularly confined to that part of the city; but being unaided by a particular state of the air, and under the influence, perhaps, of exciting causes of a less active nature, it was neither so generally felt, nor so fatal in its operation.
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> "Agreeably to this opinion is the declaration contained in a letter we before have had occasion to quote; the author of which observes,—'*I am convinced that the disorder has originated from local causes, because it has appeared in this quarter of the city, at the same season, for several years past.*'
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> "Nor has this disease been confined to New York. It is a fact beyond controversy, that during the warmer parts of the year 1795, a fever, in all essential circumstances resembling the epidemic of this place, appeared in many places in this State and in the State of Connecticut."

The "Report" of Prof. Miller, who was then the Resident Physician of the city, was received with the most marked favor on both sides of the Atlantic. It was reprinted in Great Britain, translated into the French and German, and inserted by M. Dumeril, at full length, in his Report on the Spanish Epidemic of 1804, addressed to the Emperor. As regards the questions of the local origin and non-contagious character of the disease, the affirmative was most triumphantly sustained.

We would also refer to the yellow fever that prevailed in this city in 1741 and 1742, with the view merely to give the following quotation, which illustrates the endemic character of disease, a century ago, in Ulster county—the seat of the malignant fever in the past summer. The Wallkill stream here mentioned, empties into the Rondout seven miles above the village of the same name. Of this locality, in 1743, the Hon. Cadwallader Colden, as appears by the "Medical Repository," wrote thus :

> "It is well known that the Paltz-river, or Wallkill, in Ulster county in this Province, has been long taken notice of as very prejudicial to the health of those who live near the banks of it. The waters of this river are of a dark color, and are known to come from a large space of ground overflowed with stagnating waters. The inhabitants along this river are well known to be yearly afflicted with intermittent fevers during the summer season ; and a constant fog or vapor is observed almost all summer, except in the time while north-west or northerly winds blow, to arise over that river, and to remain there to a certain height and distance, every morning, till the heat of the sun disperses it ; and frequently likewise in the evening. I have observed these intermittents to have different degrees of malignity in different years ; and that these last two years they have been more malignant than usual."

In our account of the malignant fever at Rondout, in our last Number, we adverted to the philosophy of epidemics, showing that they succeed one another in a series. It has been long known that different forms of epidemics most usually succeed each other consecutively, either in the same year or in different years ; and this was designated by Sydenham, an epidemic constitution of the atmosphere. It is, indeed, a rare circumstance, that any one form of epidemic disease rages alone. Hence we find that the malignant remittent fever of Rondout was preceded by the epidemic influenza, which, for even two months before the arrival of the schooner Vanda, which, it was alleged, introduced the fever, was often characterized by the symptoms of great prostration of the vital powers, preternatural slowness of the pulse, yellow suffusion of the skin and eye, and the vomiting of a dark-greenish fluid, with flocculi floating in it. But this law of epidemics has been still further illustrated ; for there prevails, at this time, both in Ulster and the adjoining county of Orange, a violent form of *scarlatina* of the congestive variety. There occur here those rare cases, in which the eruption, after having nearly run its course, returns just about the stage of desquamation. The application of blisters or sinapisms, is invariably followed by mortification ; and death often takes place within from three to twenty hours from the first attack.

Nor has the *epidemic constitution* of the atmosphere wholly disappeared elsewhere ; for there now prevails (December) in the cities of New York and Boston, a re-visitation of epidemic influenza, though in the latter a much less general and severe form than in July last. We thus have an illustration of the now well-known law, that epidemics, in their unknown cycles, appear in a consecutive series.

Lastly, we will notice the recent production of the distinguished Fergusson, in the Edinburgh Medical and Surgical Journal, for July, 1843 ; and in making the following extracts, our only regret is, that we cannot lay before our readers the whole of this truthful and cogent argument :

> "A body of European troops arrives in a West India colony, and soon after the yellow fever breaks out amongst them. The seasoned Creolized white inhabitants feel little or nothing of it, and the colored classes, without exception, the most numerous, by at least ten to one of the inhabitants, with whom all

strangers are ever in necessary close communication, stand by absolutely untouched. How is this? Import small-pox or any truly contagious disease, and they will suffer far beyond the usual sufferings of Europeans. Take them to England, they will be as liable as ourselves to fall under the dominion of typhus fever; to the Levant, under that of the plague; of psora and syphilis, and every other infection, they will have their full shares. Yellow fever alone they cannot take; and how is this to be explained but upon the obvious fact of that disease being a seasoning fever of malignant type, peculiar in a great degree to newly-arrived Europeans; the product of high temperature and unwholesome locality alone, which, when they come in the crowds of a military expedition, will devastate with all the fury of pestilence winged on the false terrors of contagion, to which the imitative tendencies and involuntary sympathies of our frames, have in every epidemic, when once begun, added tenfold force; but let us here examine somewhat more closely.

"One would naturally suppose that, wherever a true infection existed, the hospital where all the sick are congregated would not be a place of safety, yet there, notwithstanding, is it most likely to be found. Apply this touchstone, it will be seen that the medical officers never suffer more from the disease than their fair proportion, according to numbers; and the more immediate white attendants, orderlies, and others, uniformly less, if the ventilation and discipline be good, than the soldiers in barracks who never go near the place; because, while so employed, they are saved from exposure to the sun's heat, to night guards, and drunkenness. This I proved from incontestable hospital returns when I was last in the West Indies, as also, that the supposed contagion was never communicated to the surgical sick, the convalescent and others, although occupying the most contiguous beds in the same hospital.

"Take another proof. A sugar ship loading at anchor, or a transport, will, as hundreds and thousands have done, lose part of her crew by yellow fever. At last she sails full of the *fomites*, or even of the persons of the diseased. Now, here is the assumed contagion fairly impounded without escape, and one would suppose the disease would then do its worst; yet it does not. It uniformly stops—the sick recover every day the ship sails to the northward; she cannot, in a clear, uninterrupted passage, carry the pestilence beyond the tropic, and unless her destination be Gibraltar, Cadiz, or some other port, already under the influence of the disease at the close of the advanced summer season, where the heat has long been equatorial and the atmosphere (a European one) in all probability stagnant, and as well adapted to reproduce it as any part of the West Indies, she will arrive as free from contagion as the first day she left the stocks. But this will not satisfy the quarantine master. He has been placed there to find contagion, and, as has happened more than once at Gibraltar, will be sorely puzzled to account for the aggravated remittent fevers approaching to, or altogether the yellow, occurring before his eyes, when this fortunate chance from the West Indies will at once enable him to cry pestilence, excommunication, importation, fumigation,* and all the mummery practised by that class of officials. Try again:

"In the crowded transports at the beginning of last war, typhus fevers were frequent amongst newly-embarked troops, and they, of course, according to the doctrine of the day, carried the contagion to the West Indies, which afterwards became yellow fever under that exalted temperature. Here at last was importation proved, and *typhus flavus*, *typhus icterodes*, or *icteroideus*, became the true orthodox creed. But alas for the faith: typhus fever will not stand carrying to warmer latitudes. If the ship be even ordinarily clean it will vanish long before you can have entered the tropics, and you may as well attempt to transplant a willow tree or a hazel into a West India colony, as a fever of that class. I do not utterly deny, although I never saw it, the possibility of landing typhus fever there from out of a foul, crowded ship, but it will not stay; it will disappear infallibly as soon as ventilation, even in the most ordinary degree, is restored. It is not to be denied that crowded convict and emigrant ships have carried typhus fever through the tropics to the Cape of Good Hope and Australia, but no importation, however foul, could establish it in these countries, or cause it to spread, nor is it, I believe, known in them even now. Seeing then, that neither will our typhus admit of being carried to the West Indies, nor will their yellow demon be induced to visit our shores, that each will preserve its own locality and field of operation, we come again to the question what is it? There is much in a name, and the French have defined it in one word, *la fièvre Européenne.* Well for us had we stuck to this true definition, for it would have saved an infinity of controversy, panic, and delusion. It is in a great degree peculiar to the western world, for we have no such burst of yellow fever in the East, nor, I believe, on the shores of the Southern Pacific, as those which periodically sweep over our western colonies; but it is not unknown in the former, for one of its earliest designations was the *maladie de Siam*, although it never can be called the same destroying scourge that afflicts the western world."

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* On my last return from the West Indies, in the year 1817, I was subjected to personal fumigation on three successive days, at the quarantine station, Isle of Wight, lest I should introduce the yellow fever into England.

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"No experienced man, unblinded by the prejudices of the schools and authorities, or unbiassed by the expectation of quarantine office, can seriously believe it to be a contagion. It is a terrestrial poison which high atmospheric heat generates among the newly-arrived, and without that heat it cannot exist; but it affects no one from proximity to the diseased, and cannot be conveyed to any low temperature. This was finely exemplified at Port au Prince, St. Domingo, where I spent the earlier months of the year 1796. Our head-quarters were the town and its adjunct, Brizzoton, as pestiferous as any in the world, and there we had constant yellow fever in all its fury. At the distance of a mile or two, on the ascent up the country, stood our first post of Torjean, where the yellow fever appeared to break off into a milder type of remittent. Higher up was the post of Grenier, where concentrated remittent was rare, and milder intermittent with dysentery, the prevalent form of disease; and higher still was Fourmier, where remittent was unknown, intermittent uncommon, but phagedenic ulcers so frequent as to constitute a most formidable type of disease; and higher still were the mountains above L'Arkahye, of greater elevation than any of them, far off, but within sight, low down in what was called the bight of Leogane, where a British detachment had always enjoyed absolute European health, only it might be called better, because the climate was more equable than in the higher latitudes. Here were the separate regions or zones of intertropical health mapped out to our view as distinctly as if it had been done by the draughtsman. Taking Port au Prince for the point of departure, the three first could be traversed in the course of a morning's ride. We could pass from the one to the other, and with a thermometer, might have accurately noted the locale of disease, according to the descending scale, without asking a question amongst the troops who held the posts; and what kind of contagion must that be, which, amongst men in necessary intercommunication, cannot be conveyed from the one to the other; which refuses to mingle with another of lower temperature, although within sight, and so near, topographically speaking, as almost to touch. The men could, and did constantly, exchange duties but not diseases; and it was just as impossible, and more so, to carry a yellow fever up the hill to the post in sight, as it would have been to escape, had they been brought down and located amidst the swamps of Port au Prince. These things were known to every person in the army, whether medical, civilian, or military, and amongst them all there was not to be found a single person who had the smallest belief in contagion, provided always he had been a year in the country, and possessed opportunity of seeing with his own eyes; all, I may say, came out contagionists,* myself amongst the number, none remained so. It was impossible that we could, in face of the every-day experience of our lives, and if we had, the very women and drummers of the army would have laughed us to scorn, because they had long discovered there was not the smallest danger to be apprehended from the closest proximity of the sick. The woman knew that when she slept with and attended her dying husband, she had not been infected, and all were sensible that no safer duty could be imposed than that of attending the sick bed."

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* The vagaries of these strangers were at times very amusing. A newly-arrived contagionist physician, struck with the great mortality on his sick list, despite of his very best prescriptions, was fortunate enough at once to hit upon the true reason; they had all been feeding—chewing the cud as it were, on their own poison. Accord

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"The yellow fever cannot be contagious, because the colored races, whatever may be their exposure to the supposed infection, never take it; nor does approximation and communication with the sick, cause Europeans to be in the smallest degree more liable to fall into the disease than if they had never approached the sick bed.

"It cannot be a contagion because it is restricted to particular localities, temperatures, and elevations. 'Places, not persons,' constitute the rule of its existence. It rarely admits of being carried in the persons of the most highly diseased to other localities, even of the same temperature, if better ventilated; and the villages in the neighborhood of towns where it has been raging, and to which the infected have fled for refuge, have seldom or never become subject to the disease from admission of the strangers. This has been exemplified times out of number, at New Orleans, Vera Cruz, Gibraltar, and Cadiz. Places, not persons, comprehend the whole history—the etiology of the disease. The persons of the sick are always safe to approach—their habitations never. Change the last, the disease is certainly left behind; remove the first, and you at once annihilate the power of infecting others at the changed residence.

"It cannot be a contagion, because the degree of heat that is found to dissipate the best marked contagious fevers, is the life-blood of this. It cannot exist, but at the disinfecting point, and when the plague is dissipated by the heat and rarity of the atmosphere, this begins. So it is with typhus fever. This last goes out when you enter the tropic, the yellow fever commences. The first-mentioned is a communicable infection in the colder latitudes; the latter, the pure endemic of a hot climate that cannot be transported or communicated upon any other ground.

"Again, places not persons. Let the emphatic words be dinned into the ears of the Lords of the Treasury of Trade and Plantations, until they acquire the force of a creed which will save them hereafter from the absurdity of enforcing a quarantine in England against an amount of solar heat of which its climate is insusceptible. Let them further be repeated in the schools of medicine until their professors become ashamed of imbuing the minds of the young with prejudice and false belief, which, should they ever visit warmer climates, may cause them to be eminently mischievous in vexing the commerce, and deeply and injuriously agitating the public mind of whatever community may have received them. Once more, for the last time, places not persons.

"Turn to the celebrated work of Sir William Pym on the Boulam Fever at Gibraltar in 1815, which has, ever since it was published, so fatally influenced all the health authorities of the country, and at page 51 will be found an illustration so clear and conclusive, of the effects of change, even to the shortest distance, whenever yellow fever prevails, that it well deserves being recorded again for the guidance of all who may hereafter be called upon to act under similar circumstances. He tells us that, when the yellow fever appeared in the town of Gibraltar, he, armed with military authority, removed all the inhabitants of the infected locality, sick and well, with their baggage, to the neutral ground

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ing to the common custom of hospitals the sick lay with their heads to the wall, and the matter of contagion which they threw out at every expiration, rebounding from its hard surface, was again drawn in with their breath, so that it was impossible they could recover. The word was forthwith given, feet to the wall, heads to the centre (the middle of the room), and in this extraordinary position they were found on the following morning when the officer of the day and the inspector made their daily visit.

outside the walls, and that the epidemic forthwith ceased. He ascribes the deliverance to purification of the houses, and so forth; the philosopher would ascribe it to removal from malarious site. The conception was erroneous, to say the least of it; the execution so salutary that it ought to be held up for imitation in all times to come.*

"Yet, allowing all the foregoing to be incontrovertible, which it certainly is, still is there much of the unfathomable in regard to yellow fever; its occult sources; its appalling outbreaks, often without preliminary warning; the absence of gradation in the types of fever previous to the grand explosion; its being restricted to the European races, and being confined almost entirely to the Western world, mark it as a disease equally strange and terrible. The idle stories of its being imported are negatived at once by the impossibility of conveying it, as we have just seen, even in the persons of the sick, to the shortest distances; from the inside town of Gibraltar to the walls outside. Wherever it appears, it is generated by the sun's heat from the soil of the place, and it cannot be sent or carried to another, for every spot must have its own, or none. Stagnation of atmosphere accounts for much in regard to it, but not for all; vegetable putrefaction for little or none; nor does malaria for the whole, unless it be some occult malaria of the Atlantic shores; for prolific as the eastern tropic may be, and certainly is, of malaria in all its forms, it rarely produces the epidemic characterized by the leading symptom of black vomit. *Pestis occidentalis* would be a good designation were it not for the superstitious alarm conveyed in the first word; and *fièvre Européenne* is far better. Establish this, and the question would be solved in as far as the West Indies are concerned. Gibraltar and Cadiz and the towns of North America are not so easily disposed of; but tell the importers that, while true contagion, such as that of plague and typhus fever, is never introduced into any of them—at least has not been for more than 150 years—yellow fever appears periodically, and that, instead of looking for the coming of the pestilence from beyond the Atlantic, they should turn their attention to the sun that beams above them, to the ground on which they stand, and the qualities of the soil under their feet.

"It is there the poison lurks and has ever lurked. Fly from it certainly, and enjoin all who have the means to fly the place. To pen up the inhabitants upon the infected ground is to aggravate the disease a thousand fold, and is, in fact, as cruel and absurd as it would be to barricade the doors against the escape of the inmates of a house that had taken fire, on the insane pretence that they would otherwise spread the conflagration. The quarantine authorities will, no doubt, interpose to save the world from the dire contagion, but let them be referred to the annual epidemic at New Orleans for information how often the yellow fever has been conveyed from thence to the upper settlements on the same river, to which the fugitives, sick and well, uniformly fly for refuge, or even to the steamers that carried them; how often at Vera Cruz it has been carried out of the town, even to the first stage on the road into the interior; or how often in Spain it has ever been transported, except to another station under the same circumstances of heat and drought and defective perflation, therefore falling, if not having already fallen, into the same predicament from the same causes. Let them inquire whether seclusion and shutting up has ever saved the terror-struck. In the army of St. Domingo, it was notorious that they were ever the first to be taken ill and the surest to die; and during the yellow fever epidemic of 1816 at Barbadoes, I have recorded remarkable instances of the same, both from my own observation and that of others. In short, whenever the endemic agency could not be avoided, the best place of safety was often to be found in the sick apartment, for there quietude reigned, and fatigue, exposure, and intemperance were most likely to be avoided."

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* His words are, "I directed a sufficient number of tents to be pitched outside the gates of the garrison, on the neutral ground, with a proportion of bedding, &c., and in the middle of the night, without any previous information being communicated to the inhabitants, a strong guard, with a sufficient number of carts, proceeded to the infected district, and conveyed the different individuals of the infected families, sick and well, with their baggage, to the encampment, which was established as a lazaret and kept in quarantine. I placed the sick in separate tents, and appointed persons to attend them who had had the disease at a former period. A cordon of troops was established round the infected part of the south district, which was kept in quarantine for fourteen days; proper persons were also appointed to superintend the purification of the houses, furniture, &c., and to report the slightest appearance of disease among any of the inhabitants, who were also paraded and inspected daily by one of the hospital staff."

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"Ships have often arrived in the ports and localities where the yellow fever was endemic, with that disease on board, but, unless they came at the season of its epidemic spread, their advent would be as harmless as that of the healthful breeze of the sea. It never yet was imported as an infection anywhere, and while the disease continues as it is, never will be in this world. If it was not there before they came, they could not bring it, and if it was, the imputation would be a needless work of supererogation, as needless as that described in the homely saying of carrying coals to Newcastle."

It may be well to add that Dr. Fergusson here uses the terms, contagion and infection, as altogether synonymous.

Art. X.—*An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines; illustrated by engravings.* By Samuel D. Gross, M. D., Professor of Surgery in the Louisville Medical Institute, etc. Louisville: Prentice & Weissenger, 1843. 8vo., pp. 220.

To him who extends the domain of medical knowledge by original investigations, is due the highest meed of the faithful student of nature; and in the volume before us, we see this spirit at work both in its conception and execution. Happily combining an extensive knowledge of pathology, both theoretical and practical, and the industrious spirit which has urged our author on, during two years, to the performance of upward of seventy experiments upon live animals, it is not surprising that much new light has been thrown upon a question heretofore unsettled.

In our surgical literature, a monograph on wounds of the intestines has long been an acknowledged desideratum, inasmuch as the only production of the kind—the work of Mr. Travers—has been out of print for the last thirty years. Besides, as the information supplied by the systematic surgical treatises of the day, as well as by the various periodicals and the transactions of societies, is of the most meager character, Dr. Gross deserves especial credit for his successful efforts in filling up this hiatus in surgical literature. We have here, independent of the results warranted by his own experimental researches, a full summary of the existing state of the science relative to the interesting and important subject of which it treats.

"The experiments which form the basis of the present treatise were commenced in the spring of 1841, and continued, with various intermissions, until a few months ago. The object was, in the first place, to inquire into the process employed by nature in repairing wounds of the intestinal tube; and secondly, and more particularly, to determine, if possible, the value of the more important methods of treatment recommended by surgeons from the time of Ramdohr down to our own. The experiments, amounting altogether to upwards of seventy in number, were performed exclusively upon the dog, as the most eligible animal that could be procured for the purpose. The wound was generally made in the small bowel, not only because it is the more accessible portion of the alimentary tube, but because it is more liable, when thus injured, to become the seat of fæcal effusion, and also, perhaps, of high inflammation."

In the eye of the pathological and operative surgeon, what topic of inquiry can be more interesting, than the nature and treatment of wounds of the intestines? Considering the different methods adopted by the surgeons of the several countries of Europe, for obtaining adhesion between the edges of a cut intestine, the value of these experimental researches is particularly obvious in the materials furnished for a correct prognosis, and for an estimate of the most successful mode of treatment. As regards the latter, when we behold the errors of such men as Scarpa and John Bell, clearly exposed on the ground of experimental observation, our estimate of the labors of Dr. Gross must be still further enhanced.

Our author divides his monograph into four chapters. 1. *Nature of Wounds of the Intestines*; 2. *Treatment of Wounds of the Intestines*: 3. *Partial and complete Division of the Intestines*; and 4. *Artificial Anus*. Did space allow, we would gladly lay before our readers a detailed view of these chapters; but we trust that this notice of its general features will induce them to obtain the work itself. The various modes of uniting by suture wounds of the intestines are fully described by Dr. Gross, who renders them still more intelligible by calling to his aid, wood-cuts. There is also a colored lithographic plate, which exhibits the appearances of the internal and external surfaces of the intestines after the various experiments performed upon the poor dogs sacrificed in the cause of science and humanity.

This little volume speaks trumpet-tongued in favor of the industry and zeal of its intelligent author, fostering the hope that so successful a prosecutor of pathology will continue to gain laurels by the rigid investigation of other mooted questions of equal importance in the rich field of surgical science.

Art. XI.—*A Practical Treatise on the Diseases of Children.* By James Stewart, M.D., A.M., etc. New York: J. & H. G. Langley, 1844. 8vo. pp. 544.

The simple fact that a new edition of this work has been demanded, is certainly the most satisfactory evidence of its favorable reception; and in complying with this demand, Dr. Stewart has not failed to keep pace with the progress of this department of medicine since the period of his prior publication, as regards every improvement both in theory and practice.

In the rapid advancement, in recent years, of the whole circle of the sciences, by which the new application of principles is constantly developed, many prominent theories with their practical deductions have sprung into existence; and to present a digest of these in a condensation of existing knowledge, is what the professional public require from time to time. In this effort, so far as the diseases of Children are concerned, our author has been very successful.

We like much the arrangement of the subject adopted in this work. The leading divisions are three, namely, the *Vital Functions*, the *Natural Functions*, and the *Animal Functions*. Under the first head, come the *Respiratory and Circulating Systems;* under the second, the *Digestive and Excernent Systems;* and under the third, the *Nervous and Motor Systems.*

Let not the reader, however, suppose that this work is a mere compilation. Far from it. It consists, it is true, mainly of the recorded experience of the past, without which no medical work, we are sure, would be deserving of the time requisite for its perusal. As an evidence of the author's own sources of information, and of the good sense displayed in the selection and arrangement of his facts, whether his own or obtained from the recorded experience of others, we would refer particularly to the sections on variola, vaccinia, and vaccination.

We coincide in the opinion of the author, that the experience of the last forty-five years, "accumulated from every part of the world, has fully proved the triumph of vaccination over the dreaded contagion of variola." This question is exhibited by Doctor Stewart in its true light, showing that the proper development of the protecting disease in the system may be prevented by several causes, which are sufficient to explain the prevalence of varioloid affections. But our limited space compels us to pass over the details of these causes which may render the protective powers of vaccination, in particular individuals, nugatory. The difficulties connected with the question of the varioloid, arise from the impracticability of determining whether an individual has been properly vaccinated; and if properly done, whether the progress of the constitutional affection may not have been interfered with, by the influence at the time of some morbid action in the system; or thirdly, whether the second attack may not be due to the peculiar idiosyncracy of the patient.

Our author exhibits, by a comparison of the mortality caused by small-pox, prior to the introduction of vaccination and subsequently to that event, the most convincing proofs of the triumphs of the cow-pox, as a prophylactic agent. But not content with this mass of evidence, which has accumulated to an extent that finds no parallel on any other question of scientific investigation, he has devoted much time in making a personal examination of the records of certain institutions, and especially of orphan asylums.

> "The full benefits of vaccination are not to be found by seeking for them indiscriminately among the inhabitants of large cities, who are constantly exposed to the numerous causes which produce failure in the progress of the vaccine vesicle, but among those who enjoy all the benefits of professional skill, not only in the selection of proper virus, but also in ascertaining the proper development of the constitutional symptoms. We might, therefore, expect to find it in its most perfect state where these requisites are enforced, as in public institutions, and wherever the necessary measures are fully adopted. The following are a few of the results obtained from these sources.
>
> "In the year 1815, the small-pox appeared on board the U. S. Frigate Guerrière. An inquiry was instituted by the surgeon, to ascertain whether those attacked had ever been vaccinated, when it was ascertained that none of them

had ever had it. Not one of the crew who had been vaccinated took the disease in any form.*

"In the different institutions for the reception of children, the greatest care is bestowed on the details of vaccination, and it is under such circumstances that we are to look for the full results of this important preventive measure, up to the age of fourteen years, the average period at which the children are discharged.

"In the Orphan Asylum of Charleston, S. C., which, in the year 1829, contained one hundred and fifty children, not a single case of small-pox or varioloid occurred during the prevalence of that disease, although no additional restriction was imposed upon their intercourse with the citizens.†

"The aggregate number of children received into the different orphan asylums of Philadelphia, since their establishment to the beginning of the year 1841, is 1,009, and among the whole, there has been but one death from small-pox; this occurred some years since, out of sixty-five cases of the disease. The children were carefully examined, both with reference to the virulence of the affection, and to their condition at the time of the attack. Ten were without the usual cicatrix left by the vaccine vesicle, and the child that died was one of the number destitute of this mark.

"In the city of New York, the total number received in all the orphan asylums, is 2,384; and although the small-pox appeared in two or three of them, yet it was in a greatly modified form, and no deaths have occurred from this cause. A similar result is obtained, also, from the House of Refuge, which exhibits an aggregate number of 2,657 children received during sixteen years. The whole number, therefore, that have been inmates of these various institutions in the city of New York, is 5,041, and not a single death from small-pox has at any time occurred.

"Baltimore, also, presents the like return, out of 3,500 children that have been for several years in the alms-house and different orphan asylums of that city.

"The entire number of children, therefore, that have been under the care of the above-mentioned institutions, since their establishment, is 9,550, and but one death has occurred from small-pox in the course of thirty years; and this one it is fair to presume had not been vaccinated, as no mark of this operation was found after the most careful examination. The aggregate number that have been received in the above-named institutions amounts at this time, November, 1843, to upward of 11,000, without any variation in the results of vaccination already stated.

"The results of vaccination thus ascertained, can not be followed after the children have left these institutions, but up to that time the benefits may be learned by comparing with them the effects of small-pox before the introduction of vaccination; its ravages being principally among the young. At this day, also, the small-pox is more prevalent and fatal among children; as appears from the city inspector's report of deaths in the city of New York, for the last few years. Ninety-one deaths are reported to have occurred from this cause, in the year 1838; sixty-nine of these were children under ten years; and in 1839, sixty-eight deaths were reported, forty-five of which were among children of the same ages; and of 231 deaths from the same cause in the year 1840, 131 were also children not yet arrived at the age of ten years. To whatever cause this number of deaths is to be attributed, whether to an imperfect vaccination, or its neglect altogether, the comparison shows the triumphant results of the prophylactic measure now universally adopted.

"The value of the discovery of vaccination, as was before remarked, does not consist in its entirely preventing an attack of small-pox, but in disarming it of its terrors—in reducing the mortality, which it has been seen makes it one of the most fatal scourges of mankind, to a very small amount; a result not obtained even by the small-pox itself, many more deaths having, as has been sometimes observed, occurred among individuals after having passed through that disease, than among those who had been protected by vaccination. The recorded statistics of Drs. Mitchell and Bell, of the results of their experience during the epidemic of Philadelphia, in 1823 and 1824, also prove this fact, which has been noticed by others. Of 248 cases of small-pox and varioloid, 155 were unprotected, of whom eighty-five died; sixty-four *vaccinated*, of whom one died; nine *inoculated*, of whom three died; seven previous small-pox, of whom three died; thirteen unknown; no deaths.*

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* Report of the Med. Soc. of N. Y., 1817.

† Report of the Committee of the Board of Health of Charleston, etc.; Amer. Journ. Med. Sciences, November, 1831.

"When these results of the two methods are considered, how striking are the advantages of vaccination, not only in saving human life, but also in its direct tendency to exterminate a loathsome malady altogether; and when the many causes which are known to exist that influence the proper development of the vaccine disease, and the carelessness which must prevail in the thousands of instances of vaccination, are taken into account, far from having our confidence lessened, when the results do not accord with our most sanguine wishes, these circumstances should on the contrary strengthen our faith in the salutary influence of a remedy, which still must be regarded as one of the greatest blessings to man."

And at the end of the volume, we find the following additional evidence upon this point:

"At the request of the author, Dr. Morrell, physician at the Long Island Farms, a department of the New York Alms-House where children are received, kindly furnished him with the statistics of the cases of varioloid which occurred at that establishment from the first of November, 1834, to the first of May, 1843, comprising a period of eight years and a half. From this, it appears that of 5,856 children who were received during that period, there were but eight deaths from varioloid, among those in whom it was ascertained that vaccination had been practised. This result, added to that already stated at page 467, exhibits an aggregate of nearly 16,000 children vaccinated, and but eight deaths among them from the effects of small-pox contagion."

In view of the general character of the volume before us, comprising, as it does, a condensation of the existing knowledge upon the subjects of which it treats, we venture to predict, guided also by the history of its past career, that it will become a work of still more extended reference as a standard production.

ART. XII.—*On the Effects of Secluded and Gloomy Imprisonment on Individuals of the African Variety of Mankind, in the production of Disease.* By BENJAMIN H. COATES, M. D. Read at the Centennial Anniversary of the American Philosophical Society, May 29th, 1843. 8vo. pp. 14.

OUR author having been for many years an official visiter of the Eastern Penitentiary of Pennsylvania, his attention became attracted to the great inequality in the operation of separate and gloomy confinement on individuals of the white and the colored varieties of the human family. We need not say that the existence of a disproportionate mortality, under these circumstances, is a subject of interest and importance both in a moral and scientific point of view. The statistics of this Penitentiary exhibit the result, "that the average mortality of white convicts in the prison was less than that of the white inhabitants of the City and Liberties of Philadelphia; while that of the colored prisoners greatly exceeded the mortality of either white or colored among our general population."

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* N. A. Medical and Surgical Journal, vol. ii.

The following results, during the whole duration of the prison, from 1830 to 1842 inclusive, being the average populations of the whole thirteen years, compared with the total number of deaths, are as follows:

Total white averages, 13 years, with the fractions given, . .	2073·60
Total white deaths, 13 years, ...	42·
Average rate per cent. of white deaths in 13 years, . . .	2·03
Total colored averages, 13 years, ...	1323·40
Total colored deaths, 13 years, ...	93·
Average rate per cent. of colored deaths, 13 years, . . .	7·03

Dr. Coates now compares these results with the comparative mortality of the white and colored races in Philadelphia and its suburbs; but it is to be regretted that the following table, compiled from the researches of Dr. Emerson, does not embrace the same years as the table given above:

	Whites.	Colored.	Whites, per cent.	Colored, per cent.
1821,	1 in 49·1	1 in 16·9	2·31	5·92
1822,	" 41·9	" 21·5	2·39	4·65
1823,	" 33·8	" 17·5	2·96	5·71
1824,	" 35·1	" 17·5	2·85	5·71
1825,	" 42·4	" 27·0	2·36	3·70
1826,	" 40·3	" 26·1	2·48	3·83
1827,	" 47·4	" 18·9	2·11	5·29
1828,	" 43·6	" 20·8	2·29	4·81
1829,	" 44·0	" 23·7	2·27	4·22
1830,	" 45·4	" 27·2	2·20	3·68

"To draw an average of the whole which should be absolutely correct, it would be necessary to have the whole numbers These are not given by Dr. Emerson. The averages of the above ratios are, for the whole ten years, whites, 2·422; blacks, 4·752; and these are probably near the truth.

"Now these numbers are to each other in the proportion of 1 to 1·96. That is, out of an equal number of each complexion residing in our city and suburbs, to every hundred deaths of white persons there die one hundred and ninety-six colored persons. The deaths above given as occurring in the prison (whites 2·03, colored, 7·03), are to each other as 1 to 3·46: or, out of an equal number of both complexions residing in the Penitentiary, to every hundred deaths of white persons there would die three hundred and forty-six colored persons!"

This shows a like disproportion of mortality both in and out of the Penitentiary—a result that may be justly ascribed, in part to a difference of mode of life, but more especially to the influence of a climate which is not natural to the African variety of the human race. It may be well to present these relative ratios more in contrast, by approximating them:

	Per cent.
White mortality in Penitentiary, 13 years, . . .	2·03
White mortality in city and suburbs, 10 years, . .	2·422
Colored mortality in city and suburbs, 10 years, . .	4·752
Colored mortality in Penitentiary, 13 years, . . .	7·03

"If Dr. Emerson's average of white deaths in the city and suburbs be assumed as unity, these numbers will then be represented as follows:—

Whites in Penitentiary, ...	·838
Whites in city and suburbs, ...	1·
Colored in city and suburbs, ...	1·962
Colored in Penitentiary, ...	2·903

But here we must bear in mind that this table affords no relative comparison of mortality in the prison and in the city; for as convicts are generally in the prime of life, the prison, unlike the general population of a city, is exempt from the high mortality incident to old age and to infancy. The fact, however, that the white convicts exhibit a lower ratio of mortality than the same race among the population of Philadelphia and suburbs, while the colored convicts, similarly compared, present a much higher, establishes satisfactorily a wide difference in these two varieties of mankind, as regards the effects of imprisonment.

Granting these results to be clearly established, Dr. C. thus explains and confirms them physiologically and pathologically:

"The negro, or even the mulatto, is a very different person, in his physical and psychical conformation, from that one who may be presumed to have been held in view in our legislation, the white Anglo-Saxon, Celt, or German. His ancestry, and the prototype of his race, are calculated for the torrid zone; and even the mixed progeny suffer severely and mortally by our cold. Cheerful, merry, lounging, and careless, the Ethiopian American deeply enjoys the sun and light; delights in the open air; and is, as a general rule, constitutionally free from that deep, thoughtful anxiety for the future, so conspicuous in his paler neighbor. The face of heaven seems to him necessary to his existence; and though long confinement is, in his case, less productive of gloomy remorse, it is far more depressing to his vitality.

"The morbid effects of this are unhappily visible in the production of scrofula and pulmonary consumption; more than eighty-eight per cent. of the deaths being from chronic affections of the lungs, and from the first-named disorder. The moral consequences are, in an equivalent degree, depressing to the mind. It is not by remorse and anguish that he is affected, so much as by intellectual and moral weakness and decay; and gloomy confinement becomes thus to him, mentally as well as physically, a nearer approach to the punishment of death. The effect of separate imprisonment has not been, as has been erroneously charged against it, to produce insanity, although a humane and strict analysis has shown many to have been affected both with insanity and with imbecility, at the times when they committed the offences for which they were sentenced. The effect upon the unfortunate colored prisoners, though scarcely perceptible upon the whites, has been to produce not mania, but weakness of mind; dementia, instead of deranged excitement.

"Throughout this inquiry, I have generally preferred reasoning from the deaths, partly from the force of the consideration, but principally, as regards the scientific question, for the sake of the greater mathematical precision of the results. We have, in the reports for 1837, 1838, 1839, and 1842, a detail of the mortal diseases and immediate causes of these, in forty-three cases of colored persons. These are as follows:—

Consumption and chronic inflammation of the lungs; 1837, 6 cases; 1838, 12; 1839, 1; 1842, 1, ...	20
Scrofula of the chest, 1838, 1, ...	1
Chronic pleurisy, 1838, 2 cases; also affected with chronic inflammation of the stomach, or with that of the bladder, and with paralysis: 1839, 5; of which 1 was cut off by brain fever; 1842, 1, . . .	8

Scrofula of other parts than the chest, 1837, 2 cases: 1838, 4, including affections of peritoneum, bowels, and knee joint; 1839, 2, including peritoneum and hip joint; and 1842, 2,	10
Typhus fever, 1837,	1
Remittent fever, 1837,	1
Asthenia, 1842,	1
Tetanus, from a burn, 1842,	1
Total,	43

"Vicious habits are enumerated as causes in fourteen of the cases; and in three of them, they are the only cause assigned. Four are ascribed to previous syphilis; and in one, no other cause is recorded.

"Of nineteen deaths of white prisoners, during the same years, the diseases were as follows:—

Consumption, 1837, 5 cases; 1838, 3 cases,	8
Pulmonary and hip diseases, 1842,	1
Brain fever, reported as owing to scrofula and disorganized lungs, 1837,	1
Syphilitic chronic pleurisy, 1839,	1
Scrofula,	0
Syphilis, 1837,	1
Chronic bowel complaints, 1838, 1; 1842, 1,	2
Small-pox, 1838,	2
Asthenic brain fever, 1839,	1
Stone, 1838,	1
Diseased arteries and enlarged heart, 1842,	1
Total,	19

"Vicious habits are assigned as a cause in four cases; and in two are the only cause named. Vice before admission is represented as a cause in four cases; and in two of them is the only one named.

"Of forty-three deaths of colored convicts, twenty-nine are ascribed to chronic diseases of the lungs, and to affections of an adjacent structure, in which these are extremely liable to produce such diseased changes; and ten to scrofula of other parts than the lungs; leaving only four for all other affections; and these four were produced by typhus fever, remittent fever, asthenia, and tetanus. Of nineteen deaths among white persons, on the other hand, the causes are found in chronic diseases of the lungs and their appendages, for eleven cases; scrofula, *none;* chronic bowel complaint, two; small-pox, two; and four others are severally attributed to syphilis, asthenic brain fever, stone, and diseased arteries. with enlarged heart. Reduced to per centage, these proportions would read as follows:—

Colored.

Diseases of chest, exclusive of heart and arteries,	65·12
Scrofula,	23·25
All other diseases,	11·63
Total,	100·

White.

Diseases of chest,	57·89
Scrofula,	0·
All other diseases, including bowel complaints, 10·53, and small-pox, 10·53,	42·11
Total,	100·

This inquiry recalls to mind the question discussed in our penultimate Number, relative to the vital statistics of whites and negroes. Now, as the mortality of the colored population in Philadelphia is twice as high as that of the white, this result cannot be well reconciled with the idea that of the former, compared with one of the latter, thirty-one attain the age of 100 years and upward. We are now, however, engaged in an inquiry which will, we trust, set this question of longevity at rest.

ART XIII.—*A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum, with Illustrations.* By T. B. CURLING, Lecturer on Surgery and Assistant Surgeon to the London Hospital, Surgeon to the Jews' Hospital, etc. Edited by P. B. GODDARD, M.D., etc. Philadelphia: Carey & Hart. 1843. 8vo. pp. 568.

ALTHOUGH Sir Astley Cooper's work on the testis has supplied a desideratum long felt in the profession, yet, in consequence of its high price, it has been chiefly confined to the wealthy few among the great body of the profession. As the monograph before us, however, is exempt from this objection, and is within the reach of all, its republication here must necessarily meet the approbation of the American medical profession.

The author divides his volume into the four following parts :

I.—Anatomy of the Scrotum and Testis,
II.—Diseases of the Testis,
III.—Diseases of the Spermatic Cord,
IV.—Diseases of the Scrotum.

At first view, it may be supposed that the "Anatomy of the Scrotum and Testis," in a work treating of this subject, is supererogatory ; but upon this point, our author remarks :

> "I was unwilling to overload a work which has somewhat exceeded the limits desired, with elementary matter to be found in most anatomical treatises; but as my researches on the structure of the testis have led me to describe certain parts rather differently from other anatomists, and have enabled me to throw some light on the interesting subject of the descent of the testis, I have prefixed a concise, but it is hoped sufficiently minute account, of the anatomy of the parts in the adult and fœtal states, which, comprising, as it does, the most recent information on this subject, will probably be acceptable to my younger readers."

Part II. treats of Congenital Imperfections and Malformations, Atrophy of the Testis, Injuries of the Testis, Hydrocele, Hæmatocele, Orchitis, Tubercular Disease of the Testis, Carcinoma of the Testis, Cystic Disease of the Testis, Fibrous Transformation of the Testis, Ossific Deposits in the Testis, Loose Bodies in the Tunica Vaginalis, Spermatocele, Fœtal Remains in the Testis, Entozoa in the Testis, Nervous Affections of the Testis, Sympathetic and Functional Disorders of the Testis, and Castration.

Among these excellently-treated subjects, we scarcely know which to select by way of specimen. Under the head of "Imperfect Descent of the Testis," we find the following explanation of the phenomenon :

"The causes of a failure in the descent of the testis have not been much investigated; and as considerable doubt has long prevailed respecting the mode and agency by which this change is effected, no satisfactory explanation could be expected of the circumstances interrupting or preventing it. When we reflect on the nature of that process, as my researches have led me to describe it, it is clear that there must not only be a perfect adaptation of parts, a due relation between the body drawn down, and the structures which it traverses, but also corresponding power in the agent by which it is accomplished. There are few muscles in the human body whose development in different individuals varies in a greater degree than that of the cremaster. And if such be the case after birth, it is not unreasonable to presume that similar differences exist in the fœtus before the descent of the gland, and that a failure in that process may be the result of deficient power in the musculus testis to accomplish the passage. May we not also conclude that this muscle is sometimes paralyzed, and that the faulty descent is owing to a want of a due supply of the nervous energy which we know is often denied to other muscles during fœtal existence, and is the cause of deformities in the feet and other parts with which infants are often ushered into the world? I think, indeed, we may fairly enumerate paralysis and defective development of the cremaster amongst the causes of the imperfect descent of the testis.

"Peritonitis occasionally attacks the fœtus in utero,* and produces adhesions between the various abdominal viscera. It is well known, that in congenital hernia the testis is frequently united to a portion of intestine or omentum, and that the formation of these adhesions, previous to the testicular descent, is sometimes the cause of the displacement, the viscera being drawn down together with the gland into the scrotum. Many facts seem to show that similar adhesions are, on the other hand, an occasional cause of the temporary and permanent retention of the testicle, the cremaster being insufficient to overcome this obstacle to its descent. In the body of an old man, M. J. Cloquet found the left side of the scrotum empty, and the testicle situated at the distance of an inch from the superior opening of the inguinal canal: the head of the epididymis was connected to the sigmoid flexure of the colon by a strong white fibrous band.† Wrisberg states, that on examining an infant which had only the right testicle in the scrotum, and died a few days after birth, he found the opposite gland close to the ring and connected to the omentum by means of three slender filaments.‡ Dr. Simpson, in the dissection of an anencephalic fœtus, found marks of extensive peritonitis, and the right testicle imbedded in a quantity of coagulable lymph, which strongly attached it to the peritoneal surface of the iliac fossa.§ Jobert remarks, that he once found in the fœtus, the cœcum adherent to the testicle, which was on the point of passing the ring.‖ In the examination of a man aged sixty, who died in the London Hospital, of phthisis, I found the right testis just external to the abdominal ring; it was small in size, and closely adherent to a portion of omentum. A young man, aged nineteen, has been under my care the last twelve months, on account of an imperfect descent of the testis on the left side. The gland plays backwards and forwards through the external abdominal ring. By pressure above, it can be forced down sufficiently to admit of being examined. This testis is much smaller than the right, which is in the scrotum, and I can distinctly make out a portion of intestine closely adherent, which accompanies it in all its movements.

Mr. Hunter remarks, that the part where the testis meets with the greatest difficulty in its descent, is in the division of the tendon of the external oblique muscle, called the ring.¶ It is probable that the smallness of this opening is sometimes, also, a cause of the detention of the testis, especially in those cases in which the organ is retained within the inguinal canal. Mr. Wilson, an accurate anatomist, was of this opinion,* which is supported by the fact, that the testis is oftener found in the groin than in the cavity of the abdomen. M. Delasiauve mentions a case, in which he states the organ was retained by the border of the outer column of the ring.†

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* Vide contributions to Intra-uterine Pathology by Dr. Simpson, Edinb. Med. and Surg. Journal, Nos. cxxxvii. and cxl.

† Recherches sur les Causes et l'Anatomie des Hernies Abdominales, p. 24.

‡ Lib. cit., p. 229. § Edin. Med. and Surg. Journal, No. cxc., p. 27.

‖ Traité des Maladies Chirurgicales du Canal Intestinal, t. ii., p. 332.

¶ Lib. cit., p. 16.

"Mr. Hunter was inclined to suspect that the fault originates in the testicles themselves. It is difficult to understand how this can be, for, as the gland is passive in this process, it can offer no obstacle, unless it grows too large to pass the opening in the abdominal parietes; whereas, it is admitted that the gland, when retained, is usually below the natural size. Nor does it appear that the interruption is owing to any want of proper length in the vas deferens, for in a case of imperfect descent in a boy, whose body I examined, I particularly noticed that this duct was so long as to be doubled on itself and tortuous, a circumstance which has been remarked in other cases by Mr. Mayo,‡ Rosenmerkel,§ and others. It may be concluded then, that the causes of a failure in the descent of the testis are various; that this imperfection may result from want of power or paralysis of the cremaster muscle, from adhesions retaining the gland within the abdomen, and from a contracted state of the opening of the external abdominal ring."

As regards the belief that the long-continued use of iodine produces an absorption of the testis, our author's experience warrants the negative:

"It is a common belief that wasting of the testis is liable to be induced by the long-continued use of iodine. I have not met with any instance of it, and I know of no case in which the evidence is such as to render it at all clear that the decay of the gland was really occasioned by this remedy.‖ Iodine has been employed much more largely and generally since the time that this opinion was promulgated, so that if it exerts the influence on the testis which has been attributed to it, we might reasonably expect that the fact would have been satisfactorily ascertained by recent experience. Such, however, is not the case; and I feel convinced that the effect of iodine in producing wasting of the testis, if it ever occurs, happens so rarely, that the liability to it cannot be regarded as any objection to the free and long-continued use of this valuable remedy."

In reference to the treatment of Orchitis, many very practical remarks are made:

"The cure of acute orchitis has been much facilitated, of late years, by the application of a mode of treatment which has been found of great service in relieving certain forms of acute inflammation in other parts of the body, viz., *compression*. The object of compression is to afford support to the weakened vessels; and in acute inflammation of the integuments, when properly applied for this purpose, and not so firmly as to produce pressure and arrest the circulation, it often proves a very valuable method of treatment. Dr. Fricke, of Hamburgh, I believe, first suggested the practice of treating both acute and chronic orchitis by compression, applied to the testis by means of adhesive plaster. In an early report of this practice, he states, that out of fifty-one cases of acute orchitis, eighteen were treated by the ordinary means, and thirty-three by compression. In the latter cases, the average duration of the disease was nine days, whilst in the former it was thirteen. In cases treated more recently, after improvements had been made in the mode of applying the compression, the result was still more favorable.* This practice has since been adopted in Paris by Cullerier and Ricord; and in this country by Mr. Langston Parker, Mr. Acton, my colleague, Mr. Hamilton, myself, and others, and, I am informed, by the army surgeons generally. Some care is required in making the application, which I perform as follows. The patient being placed in the recumbent position, with the testis raised, is to remain there three or four minutes, in order to allow the vessels of the gland to become as empty as possible. The parts are to be shaved; and some *emplastrum plumbi* must be cut into strips, about three quarters of an inch in width, and eight or nine inches in length. The opposite testis and side of the scrotum being drawn away from the diseased one, so as to render the integuments of the latter quite tense, the first strap is to be placed circularly round the cord, just above the testis, as tightly as the patient can bear it. The second strap is to be placed in an opposite direction, from behind forwards, at the side of the testis near the septum. The third strap is to be applied below the first, so as partly to overlap it; and the fourth in like manner, internal to the second: and so on in succession, until the straps meet, and the whole of the testis is covered, and evenly compressed. A few additional straps may afterwards be applied where most needed to afford support, and keep the others in place; the parts are afterwards to be supported in a suspensory bandage. The strapping generally requires to be re-applied in the course of twenty-four hours. When the patient rises after its application, he feels completely relieved from the aching pain and sense of weight; and patients who have remained in bed in consequence of the pain, have immediately been able to get up and walk about. Some surgeons recommend the application of compression at the onset of the inflammatory attack; and, if the inflammation be moderate, this may be done with advantage, so that, when concealment is desirable, the patient may be able to continue his usual avocations. But, in decidedly acute orchitis, it is better to commence with an active purge, the tartar emetic, and, if necessary, depletion, and to enjoin rest; and then, after twenty-four or forty-eight hours, to resort to compression: for, in active inflammation of the testis, compression is not always sufficient without other antiphlogistic means, and, if solely depended on, may disappoint expectations. But after the more acute symptoms are relieved, compression greatly facilitates the cure, affording relief from pain, causing the rapid subsidence of swelling, and removal of all effused matter. In cases of a chronic character, or to remove the thickening and induration of the epididymis and cord so commonly observed after acute consecutive orchitis, the testis may be strapped with the *emplastrum ammoniaci cum hydrargyro*; or iodine or mercurial ointment may be first applied to the scrotum, and then the strapping, so as to combine the advantages of these applications and of compression. The removal of the chronic enlargement and induration may be further promoted by the exhibition of small doses of mercury. In these cases, I sometimes keep up counter-irritation by painting the scrotum on the side of the affected testis with the following solution—*Iodin.* ʒj. *Potass. Iodid.* ʒss. *Sp. Vin. Rect.* ℥j.; repeating the application every third or fourth day, until the gland is restored to its healthy state. Blisters are sometimes used: but they are too irritating to be applied to the scrotum, and are even liable to cause mortification."

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* Lectures on the Urinary and Genital Organs, p. 405.

† Revue Médicale, Mars, 1840, p. 363. ‡ Human Physiology, 3d edit., p. 411.

§ Ueber die Radicalcur des in der Weiche liegenden Testikels.

‖ I have heard of a case of a medical gentleman who attributed loss of virile power and a diminution in the size of his testes to the continued use of iodine, but whether justly so, I have no means of inquiring.

Part III. treats of Varicocele, Adipose Tumors of the Cord, and Spasm of the Cremaster Muscle.

In Part IV., the subjects treated of are the following: Injuries of the Scrotum, Prurigo Scroti, Varicose Veins of the Scrotum, Pneumatocele,

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* Zeitschrift für die Gesammte Medicin, as quoted in the Gazette Médicale de Paris, Année 1836, p. 182.

Œdema Scroti, Diffuse Inflammation of the Scrotum, Mortification of the Scrotum, Elephantiasis Scroti, Hypertrophy of the Scrotum, Cancer Scroti, Melanosis of the Scrotum, Adipose Tumors of the Scrotum, and Fibrous Tumors of the Scrotum.

Under the last subdivision, we find the following case related:

> "Dr. Mott, of the United States, excised an enormous diseased mass from the scrotum of a man about seventy-three years of age. The scrotum was twelve to fifteen times its ordinary bulk, and was filled with tumors of a stony hardness, from the size of nutmegs to that of a large pea. The tumors had all a very white appearance; and the integuments over two or three of the largest, having been ulcerated for upwards of a year, poured forth a fetid discharge. A white substance, resembling mortar, was discharged from these openings. The disease was upwards of twenty years' duration, and had been gradually increasing, the tumors multiplying as the scrotum augmented in size. The whole of the disease was removed, and the patient recovered from the operation, and at the end of three years afterwards he was enjoying excellent health.* I suspect this disease was originally a fibrous tumor, similar to the small one which I have described as having been removed from the scrotum by operation. The calcareous matter and other changes resemble those occasionally observed in large fibrous tumors of the uterus."

To Mr. Curling is due the credit of having collected from the best sources, the most useful information upon the various diseases of which he treats; and this work, which is the fruit of the present disposition among medical men to cultivate a particular department of medical science, constituting a *speciality*, must be allowed to be one of the best and most systematic treatises on this subject extant.

The American editor, as well as the respectable publishers, are both equally entitled to much praise, for placing this valuable work within reach of every class of the profession.

ART. XIV.—*Practical Manual of the Diseases of the Heart and Great Vessels.* By F. A. ARAN, Interne of the First Class of the Hôtel-Dieu, etc. Translated from the French, by WM. A. HARRIS, M. D., Philadelphia: Ed. Barrington & Geo. D. Haswell. 1843. 8vo. pp. 164.

THE best evidence in favor of the value of this work is, the fact of its having been re-published in "The Select Medical Library," edited by Dr. John Bell, whose judgment on such a point is one that has but very few equals. We agree fully with the author in the following views:

> "Notwithstanding the publication of many valuable treatises on the diseases of the heart, their study is generally neglected.
>
> "The unfounded scepticism which still exists in the minds of many physicians, on the possibility of recognizing and curing these diseases, and, especially, the

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* Philadelphia Journal, as quoted in the London Medical and Physical Journal, vol. lviii., p. 516.

differences of opinion among authors respecting them, have, in no slight degree, contributed to cast disfavor on this useful branch of medicine. Struck with these differences when we began to devote ourselves to the study of cardiac diseases, it seemed to us, that the best means of acquiring a just idea of the whole subject would be, to combine all the materials furnished by authors, and to test by clinical observation the truth of their statements.

"This is the undertaking, these are the investigations in which we engaged, for our own satisfaction in the first place, and which we now offer to the public. The treatises of Senac, of Corvisart, of Laennec, of Bertin, of M. Bouillaud, of M. Gendrin, and especially the excellent work of an observer whom death has prematurely removed from the field of science (Dr. Hope), have been our principal guides, We have not adopted servilely the opinions of any one. We make no pretensions to novelty ; but we have compared, and, as well as we have been able, have verified, for ourselves, the observations of others."

As regards the youthful translator, we behold in this effort the germ of future respectability in his profession.

Art. XV.—*Principles of Human Physiology, with their chief applications to Pathology, Hygiène, and Forensic Medicine, especially designed for the use of Students. With over* 100 *illustrations.* By William B. Carpenter, M. D., Lecturer, etc. First American edition, with additions by the author, and notes and additions by Meredith Clymer, M. D., etc., 8vo. pp. 618. Philadelphia : Lea & Blanchard, 1843.

Dr. Carpenter comes before us with no ordinary claims, seeing that he has made this subject a matter of special study, having, in truth, taken pains to test by actual experiment many of the more valuable additions made in recent years to physiological science. Treatises on physiology have of late been rapidly multiplied, which is an evidence that increased attention is being paid to this department of medical science ; and this rapid progress of the science requires, in view of the many new facts established day after day, a careful collation of them, at short intervals, with the deductions that they may warrant. Besides, as a consequence of this intimate acquaintance with the entire subject, our author, unlike certain other physiological works, consisting of scarcely more than mere extracts, which are not always harmoniously dove-tailed, makes his materials his own, elaborating them into a homogeneous mass.

We agree with the American editor in the following remarks :

"The peculiar character of Dr. Carpenter's 'Human Physiology,' particularly adapts it to the wants of the medical student. The close connection between Physiology and the practical branches of medicine, has been throughout the work carefully borne in mind, and their intimate relations pointed out. The present Treatise will be found to be a concise, yet comprehensive exposition of the actual condition of physiological science, conceived and executed in a clear and philosophical spirit. With much that is profound and original, the Author has presented all the received or probable facts of the Science of Life, in a well digested and lucid manner, deducing from them legitimate inferences, and carefully abstaining from the discussion of controverted questions, and never hazarding any startling hypothesis."

Did our space allow, it would be a pleasant duty to enter into a minute analysis of the present volume; but in view of the books now on our table, each awaiting an introduction to the reader, a few words must suffice.

In the arrangement of his subjects, our author presents perhaps nothing new, save an excellent preliminary chapter of thirty-eight pages, entitled "*On the Place of Man in the Scale of Being.*"

As regards the plan and objects of this treatise, its author speaks thus:

> "In this, as in his previous work, it has been his object to place the reader in the possession of the highest principles that can be regarded as firmly established, in each department of the science; and to explain and illustrate these, by the introduction of as many important facts as could be included within moderate limits. In every instance, he has endeavored to make his statements clear and precise, without being formal or dogmatical; and definite enough to admit of practical application, without appearing to be unimprovable by further inquiry. Physiology is essentially a science of progress; and it must happen that much of what is now regarded as established truth, will need great modification to be brought into accordance with the results of new inquiries. It is very desirable, therefore, that the Student should not be made to think so confidently of his acquirements, as to be indisposed to receive new information, even though it should tend to diminish their value. There are several departments of the science which are, at the present time, in what may be termed a transition-state. Such may be said of the Physiology of Nutrition, which is fast emerging from the deepest obscurity into clearer day; and, as might be expected, there are several questions which can scarcely be at present regarded in any other than a very doubtful light. The Author is not without hope, that, in several parts of his Treatise, suggestions may be found, that will lead some of his readers to original researches on the numerous topics to which they refer; and he considers that he will be thus doing greater service to the public, than if he were himself to aim at embracing the whole range of inquiry thus indicated. With these views, he has not hesitated to express uncertainty where he has himself felt it; and he trusts that what he has thought himself justified in stating with more positiveness, will thus be entitled to greater weight. On one point—the distinct existence of the grey fibres constituting the Organic system of Nerves—he deems it right here to say, that the text (§111) expresses a greater degree of certainty than it would be probably right to assume, on a question at present so controverted. The fact is, that there is so strong a resemblance between these fibres, and those of ordinary fibro-cellular tissue, that it is not easy to distinguish them; and there are many able Microscopists who affirm that they are really identical, whilst others are as positive of their distinctness. To the Author himself, it appears that a strong argument from analogy may be drawn in favor of their existence. In the coats of the arteries and some other structures immediately connected with the Organic Functions, there is a kind of substance resembling ordinary fibrous tissue in appearance, but having many of the properties of the Muscular fabric. It can scarcely, then, be deemed improbable that, in the parts of the Nervous system which are specially destined to influence the Organic processes (if such there be), a similar departure from its regular type, and an approximation towards the ordinary fibrous texture, should manifest itself."

The editorial duties of Dr. Clymer have been performed with discernment, adding to the text of the author whatever the daily improvements in physiology have afforded. Besides, the volume, which is illustrated with numerous engravings, is got up with much neatness.

To such members of the profession as have not the time to peruse, or the means to obtain, the various monographs devoted to these subjects, we would recommend this treatise as well calculated to teach them the present state of physiology. We will leave to Prof. Caldwell the task, in his present crusade against the chemico-physiologists, of pointing out the heresies of this writer.

Art. XVI.—*The Anatomy, Physiology, Pathology, and Treatment of Cancer.* By Walter Hayle Walshe, M.D., Professor of Pathological Anatomy in University College, London, etc. With additions by J. Mason Warren, M.D., etc. Boston: William D. Ticknor & Company. 1844. 8vo. pp. 351.

This admirable monograph on Cancer, by the distinguished author of the "Physical Diagnosis of Diseases of the Lungs," is reprinted from the Cyclopedia of Surgery; and the publishers, in view of the expensiveness of this cyclopedia, deserve much credit for thus giving it an extensive circulation in this country. As Dr. Walshe has not completed his subject entirely as regards cancer of *particular parts*, reserving these special descriptions to appear under other heads to be published hereafter, the task of supplying the omissions has fallen into the able hands of Dr. J. Mason Warren.

Part. I. treats of cancer in general, its anatomy, physiology, pathology, and treatment.

Part II. is devoted to the disease, as it affects particular parts; such as cancer of the skin, the subcutaneous cellular tissue, the muscles, the subcutaneous glandular parts, the bones, periosteum, and endosteum, the meninges, the alimentary canal, the air-passages, the genital organs of both sexes, the urinary organs and passages, the eye, and the ear.

That this work presents a valuable digest of all that is known upon the subject of which it treats, we have a sufficient guarantee, both in the name of the author and of the American editor.

Art. XVII.—*An Elementary Treatise on Auscultation and Percussion, or the Application of Acoustics to the Diagnosis of Diseases, with a Synoptical Table.* By A. Raciborski, M.D. of the Faculty of Paris, formerly Surgeon in the Polish Army, Professor of Medicine, Chevalier of the Order of the Golden Cross of Poland, etc. Translated, with Notes, etc., by Minturn Post, M.D. New York: Collins, Keese, & Co. 1839. 8vo. pp. 261.

In view of the high ratio of the various affections of the chest incident to this climate, it is peculiarly essential that the physician should avail himself of all the means calculated to throw light upon these not unfrequently obscure disorders; but, independent of this additional claim upon American physicians, the day has arrived when to be ignorant of the advantages to be derived from the application of hearing to the diagnosis of diseases, is unpardonable. Although the physician, from want of sufficient opportunity, may not be able to acquire the tact requisite to detect the obscure and delicate symptoms revealed by their physical signs; yet it is expected from every physician, that he should be at least familiar with the methods of physical examination. It may well be said that the brilliant results which have attended the discovery of the immortal Laennec, in connection with the improvements of Louis, Avenbrugger, Bouillaud, and Piorry, have established a new era in medicine.

The subject of the volume before us is judiciously systematised; and the translator, in the execution of his task, has manifested both good taste and sound judgment.

ART. XVIII.—*Anatomical Atlas, illustrative of the Structure of the Human Body.* By HENRY H. SMITH, M. D., etc. Under the supervision of WILLIAM E. HORNER, M. D., Prof. of Anatomy in the University of Pa , etc. Philadelphia: Lea & Blanchard, 1844.

THIS volume is designed to form a set of plates as an accompaniment to the text of Prof. Horner's work entitled "Special Anatomy and Histology."

> "The utility of drawings," says Dr. Smith, "in illustration of a purely demonstrative branch, is now too well established to require any argument in its favor. Separated from the centre of instruction, and deprived of the advantages of the Dissecting Room, the ideas once so thoroughly acquired soon begin to fade, and the images once so distinct, become confused and mixed. A recourse to plates, in the absence of dead bodies, is then the only means of refreshing our knowledge.
>
> "Numerous works, framed with these intentions, have long enjoyed a large share of professional approbation; some from the finished style of their execution; others from some striking feature of simplicity, or adaptation to the wants of medical men.
>
> "The claim of the present one is, to have been selected from the most accurate of these, as well as from the latest Microscopical Observations on the Anatomy of the Tissues; and where plates were not deemed satisfactory, to have been enriched by original drawings, from specimens furnished by the beautiful Anatomical Museum of the University of Pennsylvania."

The portion of the work before us, is Part First, which treats of the bones and ligaments. Of the former there are ninety-two figures, and of the latter, thirty-six. The whole is to be completed in five parts. The work is well got up, alike in reference to the plates, the paper, and the typography. We would recommend it not only to the student, but to the working physician who, although grown rusty in the toils of his harness, still has the desire, and often the necessity, of refreshing his knowledge in this fundamental part of the science of medicine.

Art. XIX.—*A Practical Treatise on the Management and Diseases of Children.* By Richard T. Evanson, M.D., Professor of Medicine in the Royal College of Surgeons, Ireland, and by Henry Maunsell, M.D., Professor of Political Medicine in the Royal College of Surgeons, Ireland. Second American, from the fourth Dublin Edition, with Notes by D. Francis Condie, M.D., etc. Philadelphia: Ed. Barington & Geo. D. Haswell. 1843. 8vo. pp. 372.

This excellent work has had a fine run at home; and the edition now before us, which is the second one called for, is a reprint of the last Dublin edition. The American editor introduces the volume to his readers, in the following words:

> "In presenting a Second American Edition of the Treatise of Drs. Evanson and Maunsell, it may not be improper to state that we consider the work, as revised and enlarged by the authors in their Fourth Edition, to constitute one of the best manuals we possess of the diseases of children, and one especially adapted for the use of the student and young practitioner. It embraces a very full account of the principal affections peculiar to the early period of existence—the phenomena of which are described with great accuracy, while the views advanced in relation to their pathological character, as well as the directions given for their therapeutical management, are evidently the result of extensive personal observations, and a careful study of the views and experience of the best modern authorities."

The contents of this volume embrace the following chapter:

1. Peculiarities of the infant structure and constitution; 2. Management and physical education of children; 3. Mental and moral education; 4. Peculiarities of disease; 5. Infantile therapeutics; 6. Accidents and diseases occurring at birth, or shortly afterwards; 7. Dentition; 8. Diseases of the digestive organs; 9. Diseases of the respiratory organs; 10. Diseases of the cerebral system; 11. Eruptive fevers; 12. Vaccination; 13. Constitutional diseases; 14. Diseases of the skin.

The editor did not deem it necessary to make many additions; but what he has added is characterized by appropriateness. Upon the subject of cholera infantum, for example, he has given an extended note, for the very good reason that his authors have confounded it with the *maladie gastro-intestinale des enfans, avec disorganization gelatiniforme* of the French, and the *gastro-malacia* of the Germans. But this *Irish bull* certainly finds an excuse in the extreme rarity of cholera infantum in Dublin.

Art. XX.—*On the Theory and Practice of Midwifery.* By Fleetwood Churchill, M. D., M. R. I. A., Physician to the Western Lying-in-Hospital, Lecturer on Midwifery, etc. With Notes and Additions, by Robert M. Huston, M. D., etc. With 116 illustrations. 8vo. pp. 519. Philadelphia: Lea and Blanchard. 1843.

The author, Dr. Churchill, enjoys the advantage of being already favorably known to the profession by his excellent writings on the Diseases of Females; nor does his present treatise detract anything from his well-earned reputation. Indeed, among the very numerous works, within late years, published on the obstetric art—works, too, rich in practical precepts, and in various modes of illustration calculated to render these rules of service to the inexperienced—Dr. Churchill's treatise maintains a high rank. Embracing a full analysis of the opinions and experience of the many distinguished cultivators of obstetrics, so as to present a faithful exposition of the existing state of the art, the student and the practitioner will both find the volume a useful manual.

The work is divided into three parts, which our author considers as the most natural arrangement.

> "The theory and practice of Midwifery," he says, "embraces the anatomy and physiology of the organs of generation, and also the anatomy of the region in which they are contained. A correct knowledge of the structure, magnitude, and other peculiarities of the pelvic cavity is indispensable to a due appreciation of the mechanism of parturition: the anatomy of the organs of generation must of course be preliminary to an investigation into their functions, and it is only by a careful observation of these functions that we are able to detect and understand the deviations from their normal course; in other words, their pathology.
>
> "The three great functions of the uterine system are *menstruation*, *conception*, and *parturition*, which are so intimately connected, that each is dependent on the other, and for the development of either, a co-operation of organs is necessary. A breach of this union, or the absence of this co-operation, will give rise to functional irregularity: and together with the individual deviations, and those arising from organic deficiencies, will constitute the pathology of the sexual system.
>
> "We have thus, in a few words, a natural arrangement of subjects laid down, which we shall follow in the subsequent parts of this volume. PART I. will include the normal and abnormal anatomy of the pelvis, of the external, and of the internal organs of generation. PART II. the function of menstruation, with its abnormal conditions; and of conception, utero-gestation, ovology, &c., with their abnormal deviations, as sterility, superfœtation, extra-uterine gestation, fœtal pathology, abortion, &c. PART III. Midwifery, properly so called,—that is, parturition, with its abnormal varieties.
>
> "This arrangement will bring under our notice all that relates to the theory and practice of midwifery.
>
> "In addition to the description of the different functions noticed above, there will be appended full details for the management, and for the treatment of their deviations; all which I have endeavored to give as clearly, yet as concisely as possible."

One of the most interesting and valuable chapters in the whole volume, is that upon the *premature induction of labor*. Considering the question under the three-fold view of its *morality*, *safety*, and *utility*, the author, after exhibiting a succinct abstract of the opinions, founded upon experience, of all the most prominent authorities, concludes, from an extensive examination, that these three points are fully established. The objections of the French authors he sums up as follows; and these objections, we think, are fairly and satisfactorily answered:

> "1. It is immoral.
>
> "2. It is almost impossible to determine the exact relations between the head of the child and the pelvis.
>
> "3. The manœuvres necessary for exciting labor are highly dangerous.
>
> "4. The uncertainty of all women as to the period of their pregnancy.
>
> "5. The difficulty of dilatation of the os uteri at the seventh month.
>
> "6. The danger of subsequent disease."

Dr. Churchill lastly describes five methods of exciting uterine labor, with a view to the induction of premature labor, as recommended by different practitioners.

The addenda of Dr. Huston are always valuable and appropriate.

Art. XXI.—*The Dissector, or Practical and Surgical Anatomy.* By Erasmus Wilson, Author of a "System of Human Anatomy," etc. With 106 illustrations. Modified and re-arranged by Paul B. Goddard, M. D., Demonstrator of Anatomy in the University of Pennsylvania. Philadelphia: Lea & Blanchard, 1844. 12mo. pp. 444.

In this work, we have another valuable aid to the student of practical anatomy. Indeed, so unceasingly does the medical press teem with new productions, in which man's ingenuity is taxed to the utmost, in illustrating by means of figures, what has already been explained in the choicest language, that if there be a royal road to knowledge, it must soon be found. The "Dissector" before us is quite equal to any of its brethren.

Art. XXII.—*Report of a Committee of the Medical Society of Delaware, assigning reasons why the Society should surrender its Charter to the General Assembly.* Wilmington: 1843.

The Medical Society of Delaware, which was originally founded in 1789, aimed merely, as an association of professional men, to extend their knowledge and increase their usefulness. It was not until after thirty years of a purely professional existence that the Medical Society assumed the new character of a censorship, granted by several acts of the General Assembly. These acts—

> "Conferred upon the Society the power of interdicting the practice of medicine within the State to incompetent persons, by imposing a penalty of fifty dollars upon any one practising without the license of the Society, and by permitting licenses to be granted only to such persons as produced diplomas conferred by 'some reputable College of Medicine,' or who, otherwise, submitted to a 'full, strict, and impartial examination' by the Board of Examiners, in proof of their medical acquirements. And the acts also imposed a license-fee of ten dollars, to be paid, and appropriated to the uses of the Society."

This power was conferred by the General Assembly, not with the view of promoting the interests of the medical profession, but avowedly for the purpose of protecting the people of the State from the evils of empiricism. But in 1835, a blow was struck at the Society, which somewhat impaired its usefulness:

"By a singular Supplementary Act then passed, it was made lawful for any person to practise medicine without license, and to receive 'any fee or reward therefor, *which might be voluntarily, freely, and gratuitously tendered or given*' to him; but, as it expressly provided that no such person should have 'the right to demand or sue for pay,' the restriction rendered very nearly inoperative a law which, otherwise, would have deprived the Society of all power.

"In the year 1839, the General Assembly, by an act of amendment to the before-mentioned Supplementary Act, expressly repealed the law prohibiting persons practising medicine for pay without license, so far as related to 'persons practising on the *Thompsonian* or *Botanic System* exclusively;' and such persons are, by special provision in the act, authorized 'to sue for and recover fees.' By a further Act, entitled '*An Act for the relief of Homœopathic Physicians*,' passed January 27, 1843, the same exemption from taking out a license, and the same authority to sue for and recover fees, are accorded to 'practitioners on the Homœopathic system exclusively.'

"By these two Acts, it is undeniable that the General Assembly of Delaware have revoked, in every essential feature, the power of the Medical Society to protect the people of the State from the evils of empiricism. It continues the censorship; but it excludes from censure two classes by far the most numerous of empirical practitioners in the United States; and while, by these special acts of partiality, it elevates the two classes into a particular dignity, because into an exemption from laws which apply to regular physicians, and to all the petty classes of empirics who have not yet found favor with the General Assembly, it leaves the Medical Society the appearance of a power which it does not possess, along with the substance of a responsibility, which, in the judgment of your Committee, the people of Delaware will generally believe to attach to the Society, so long as it continues its corporate existence.

Nor is this the only evil resulting from the acts of 1839 and 1843. The laws of incorporation, so far as they are in force, compel licenses to be taken out and paid for by all persons aspiring to practise medicine, *except* those practising exclusively as Thompsonians or Homœopathists. The Legislature, has, therefore, imposed pains and penalties, operating as a direct discouragement, on regular medical men; while it has set a bounty on empiricism. After years of painful study in acquiring knowledge which a hundred generations of the wisest men have slowly contributed to the general stock of medicine, and which, hitherto, has been deemed a necessary acquisition to every Medical man, the young physician, in Delaware, finds himself questioned, and taxed, and licensed, before the laws allow him to enter upon his high calling; while, on the contrary, the most ignorant person, if he but call himself a Thompsonian or Homœopathist, meets with no impediment, pays no tax, is subjected to no question, but commences his occupation, proud of his immunity, and of the ignorance which the General Assembly of Delaware has distinguished as better than the knowledge of the educated physician."

* * * * * * * * *

"The present conjuncture appears to your Committee one in which there is a peculiar call for adopting this dignified course of action, and of surrendering into the hands of the General Assembly the charter of the Medical Society; which, shorn of its usefulness as a public institution, now exists only as a representative of the interests of the Medical Profession. The legislature, as we have seen, has left the Society a shadow of power; but it is a power which exists only to deprive medical men of privileges accorded to Thompsonians and Homœopathists. By the surrender of its charter the Medical Society secures at least equal privileges to the educated physician; and it restores to the public their natural right (the withholding of which is now useless and invidious) of patronizing new and unprivileged classes of empirics, without the necessity of further appeals to the liberality of the Legislature. No advantages have ever inured, or were expected to inure, from the charter of the Medical Society to the Medical Profession, which could not be expected from a private, unincorporated association of Physicians; and by the voluntary relinquishment of the little power still remaining to it, the Medical Society may afford the public a proof, that the greater power, so long enjoyed by the Society, was not accepted nor exercised from any motives of professional interest, nor for any other purpose than that proposed by the General Assembly in granting it—namely, the protection of the people of the State from the evils of empiricism.

"For these, and for various other reasons which are sufficiently obvious, your Committee are of the opinion, and they beg leave to report accordingly—That it is expedient to surrender the charter of this Society to the General Assembly of the State; and furthermore, That it is expedient, because it will be highly advantageous, to organize a voluntary association for the promotion of Medical and Surgical Science within the State of Delaware."

This report, at the meeting held on the 6th of November last, was unanimously accepted and ordered to be printed; but, as many members were absent, it was resolved to defer the final action until the meeting in May next.

Art. XXIII.—*Lecture, introductory to a Course on the Principles and Practice of Surgery, in the University of Pennsylvania.* Delivered Nov. 6, 1843. By William Gibson, M.D.

We have perused this lecture with much pleasure, constituting, as it does, a well-digested system for the guidance of the medical student. But as its application is mostly local, our extracts must be limited to a single paragraph:

"It is now well understood, in all colleges of medicine, or ought to be, that almost every course of lectures is susceptible of *demonstration.* Instead of pursuing the old practice of accumulating lecture upon lecture, with a view of exhausting the subject; instead of reading long, learned, and prosing disquisitions, borrowed from old books, detailing theory upon theory, and practice found obsolete and inefficient, the modern lecturer, in all the departments, culls from every source the most precise and accurate information, and presents it to his hearers in so exact and lucid a form, and so much in the shape of a demonstration, as to satisfy them, at once, of the value of what they receive. Now-a-days, no teacher, of any experience or reputation, lectures *largely* upon any subject, belonging, *in common*, to almost every department of the profession, upon which one or more standard writers have published works so valuable, as to receive the decided sanction and approbation of medical men all over the world. Who would venture now, for example, to give an extensive course on Inflammation, after what Hunter and others have published? The same remark will apply to many other subjects. Is it not better, therefore, when the time allotted for lectures is so short, and the subjects so numerous and diversified, instead of attempting, what has never been accomplished—to give *a full course*, as it is called, embracing a little of everything—to devote the greater part of the time to important and difficult topics; such as cannot be well understood merely from poring over books, but which can be explained, readily, by drawings and models and other means, combined with description; and to refer the class, on subjects easily understood, and of less importance, to standard works, which they can read at their leisure, and pursue again and again, until they acquire a full amount of information? No man of common sense will pretend to controvert such a proposition; and each student must see that every moment so precious to him, which is taken up in pursuing an opposite course, cannot fail to rob him of a vast deal of information, only to be obtained from lectures of the true and legitimate stamp."

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *Anatomy of the Nervous System.*—In the introductory address delivered at the opening of the Medical School of St. Thomas's Hospital, by R. D. Grainger, Esq., F. R. S., Lecturer on Anatomy and Physiology, the following remarks are found:

One of the latest applications of the microscope is that for which we are indebted to Dr. Stilling and Dr. Wallach, and the importance of the inquiry may be judged of by the fact that if the deductions about to be stated are ultimately established, they must considerably modify several of the received opinions on the subject to which they relate. These researches concern the intimate texture of the medulla spinalis and the medulla oblongata, and more especially the origins of the spinal nerves. As there may be some here present who may be desirous of repeating these observations, I will, in the first instance, briefly describe the method adopted by these gentlemen, as given by Dr. Stilling in his work entitled, "Ueber die Textur und Function der Medulla Oblongata." Extremely thin sections of the spinal cord, longitudinal and transverse, are to be made by means of a very sharp and broad razor, rather hollowed on the surface, which, as in making other delicate animal and vegetable sections, is to be kept quite wet on the surface by spirits of wine. These sections, of which there are specimens before us, are made in every part of the cord from the cauda equina to the pons varolii. Considerable importance is attached to the state of the cord when examined; and my own experience has long since taught me that the whole question of success or failure in examining a part of such extreme delicacy very much depends on securing fit specimens. The examination is made most satisfactorily on the spinal cord of an animal, a calf, or dog, for instance, just killed, the delay of a few hours causing considerable changes; but for an extended inquiry like this, it is necessary to have parts always ready, and they are thus prepared:—"I place," says Dr. Stilling, "a fresh spinal cord and medulla oblongata, as they are taken from the body in weak spirit, and allow them to remain in it twenty-four hours; then I pour off the spirit and place fresh but stronger spirit on the parts, which, after two or three days, is again poured off, and then the strongest rectified spirit is used; the specimens being allowed to remain in it from four to eight days, acquire by degrees such hardness as to allow of the finest sections being made."

The sections being provided (if from a recent cord) are then to be extended by means of a compressorium, differing in some respects from the instrument usually employed. Low powers are best adapted for the examination; a lens of two-inch focus being first used, and then others of a higher power. The following is a summary of the facts which are announced in reference to the structure of the spinal cord:—

1. All the white external longitudinal fibres of the cord, anterior, lateral, and posterior, run uninterruptedly from the cauda equina to the pons varolii, and also are continued beyond that body towards the brain.

2. The same course is observed by the longitudinal fibres of the grey internal substance of the cord, and by the fibres of the part named by Rolando substantia gelatinosa, which is placed behind the posterior horn of the grey matter of the cord.

3. The anterior division of the grey matter, but not the posterior, contains a number of corpuscles.

4. A central canal runs along the whole length of the cord.

5. The anterior and posterior transverse commissures of the cord consist partly of transverse and partly of decussating fibres.

The most important observations are those which relate to the connection of the roots of the spinal nerves with the cord; they are as follows:—

1. All the fibres of the anterior and posterior roots pass between the longitudinal fibres of the cord in a transverse and horizontal direction.

2. All the nervous fibres of both roots enter the grey substance of the cord, those of the posterior root previously crossing the substantia gelatinosa.

3. Some of the fibres of the posterior roots become continuous with the fibres of the anterior root of the same side.

4. A part of the fibres of the posterior root cross the mesial plane of the body, passing some before and some behind the central canal of the cord; they then run forward, pass between the corpuscles above noticed of the anterior cornu of the grey matter, and leave the cord as a part of the anterior root of the opposite nerve.

It would lead to details inconsistent with the present occasion to speak of the interesting researches into that most complex organ, the medulla oblongata, respecting the structure of which several parts are described which hitherto were unknown.

To those whose attention has been directed to the intimate texture of the spinal cord, the investigations just noticed are full of interest. Through the kindness of Dr. Stilling, I have had, with many others, an opportunity of examining his preparations. And, in the first place, I would remark that his mode of displaying the disposition of the parts is most satisfactory, and must be regarded as a great step gained in the investigation of the nervous centres. With respect to the facts announced, I am convinced, from repeated inspections, that many of them are strictly true, but not having had an opportunity of examining all the fibres constituting a root of a nerve, I am not prepared to state whether the whole of them, as Dr. Stilling avers, penetrate into the grey matter. The fibres which I did examine undoubtedly passed into that substance; the existence, also, of the central spinal canal, and of the peculiar decussation around it, was plainly demonstrated. This decussation between a part of the posterior root of one side of the body and of the anterior root of the other, is a novel and interesting fact, and will henceforth have to be taken into consideration when the path is investigated by which impressions made on one side of the body, as in physiological experiments and in traumatic tetanus, are transmitted to the opposite.—*Lancet, Oct.* 7, 1843.

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2. *On the Presence of Vegetable Germs in the Fluids of Animals.* By MM. Andral and Gavarrett. (*Comptes Rendus des Séances de l'Academie des Sciences*, 30th January, 1843.)—M. Liebig announced in 1841, in a letter to the Academy of Sciences, that he had succeeded in precipitating albumen, in the form of globules, by adding a large quantity of water to serum rendered neutral by an acid. MM. Andral and Gavarrett repeated this experiment, and produced the same result, but assert that these globular bodies, into which the albumen is thrown, are nothing else than the rudiments of vegetables, which M. Turpin has shown are produced in all vegetable infusions on fermentation. After having found these so-called vegetable germs in the serum of blood, they experimented in a similar way on the white of the egg, the different forms of serous fluid produced by diseased action, and the serous part of purulent matter, and met with the same bodies in all these. In every albuminous fluid, when deprived of its alkalinity, they found these globular bodies, which they regarded as vegetable, were produced, and they think that the knowledge of these being vegetable may prove of no small utility in physiology and pathology.—*Edinburgh Medical and Surgical Journal*, October, 1843.

3. *Case of Precocious Puberty.* By M. Ruelle of Cambrai. (*Bulletin de l'Academie Royale de Medecine*, February, 1843.)—The subject of this case was born at Cambrai the 7th of April, 1839, and seen by M. Ruelle a few days after his birth. He was then very small and feeble, and had no strength to take the breast; indeed, it was six weeks after birth before he was able to suck. M. Ruelle lost sight of him till the month of August last, when he was three years and four months old. He had the appearance of a boy about eight years of age. His head was large, yet proportioned to his body. His muscles were well developed; he had twenty teeth widely separated from each other; he was vigorous; had a voracious appetite; and an understanding greatly beyond his years. The down on his cheeks and upper lip was black and very apparent. His penis, when flaccid, was 3½ inches long; the glans was uncovered; the pubis was covered with long black hairs; and the testicles were well developed. The penis became erected whenever it was touched. His mother said he was given to masturbation, which she found it almost impossible to prevent; and that each time a small quantity of seminal fluid was ejected.—*Ibid.*

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

4. *On the successful Employment of Belladonna as a prophylactic during the prevalence of Epidemic Scarlatina.* By M. Stievenart of Valenciennes. (*Bulletin de l'Academie Royale de Medecine*, February, 1843.)—An epidemic scarlatina ravaged, during the winter of 1840–1, several villages in the neighborhood of Valenciennes, when Dr. Stievenart was induced to try the prophylactic properties which belladonna is said to possess against this disease. The circumstances rendered any trial of this kind of double value, as, on account of the fatality of the epidemic, 30 patients had already died out of 96 seized. In a small village, out of 250 individuals, 200 took belladonna, and were all preserved from the attacks of scarlet fever. Of the 50 others, 14 were seized with the disease, and four of them died. At the village of Curgies, Dr. Stievenart administered the belladonna to the children at the public school, and allowed them to continue at their lessons and have communication with the other children of the village. All to whom the belladonna was administered escaped the scarlet fever; but a few who refused to take it were seized with the disease.

The belladonna was administered in two forms; in solution, or as a powder. Two grains of the recent alcoholic extract of belladonna were dissolved in an ounce of any aromatic infusion, and of this two drops were given to a child of one year old daily for nine or ten days. An additional drop was given for every additional year of age. The largest daily dose was, however, limited to twelve drops. When the belladonna was given in the form of a powder, half a grain of the powder of the root was mixed with a small quantity of sugar, and divided into ten doses. One of these was given, morning and evening, to children of from one to two years old; two powders, morning and evening, to those from three to five; three powders to those from six to nine; four to those from ten to fourteen; and five to adults.

These small doses never produced the toxicological effects of belladonna; in fact, they scarcely ever had any marked action on the animal economy. In five or six cases Dr. Stievenart observed a rash, similar to that of measles; and, in a few other cases, headache with dilatation of the pupils, dryness of the throat, and slight sore throat, but which had no resemblance to that of *scarlatina anginosa*. In all the others, no sensible or apparent effect resulted from the administration of the remedy.

Dr. Stievenart generally continued the use of the remedy for from nine to ten days; in some cases, it was given for fifteen days. He thinks this period sufficiently long to put the system under the influence of the preservative powers of the remedy; but recommends to return to it if the epidemic return or break out again with renewed violence.

A few of the recorded instances in which belladonna has been successfully administered as a prophylaxis, are noticed. Bayle, in 1830, published a notice on this subject, by which it appears, that of 2027 individuals to whom belladonna was administered, 1948 were preserved from scarlet fever, and 79 were attacked with it. Dusterberg, by means of belladonna administered for two weeks, preserved from scarlet fever all those who took the medicine. In order to ascertain the real value of the remedy, he purposely omitted to administer it to one child in every family, and this child alone, according to his report, was seized with the disease. He adds, however, that scarlet fever occasionally seized a child who had only been taking the remedy for three or four days, but was always in this case mild, and often only manifested its presence by desquamation ensuing. Zeuch, physician of the Military Hospital for Children in the Tyrol, after eighty-four children were seized with scarlet fever, was induced to try the prophylactic effects of belladonna on the remaining sixty-one children. With a single exception, all were preserved from its attacks, though the disease was raging around. Schenk, Berndt, Kohler, Meglin, De Lens, and other distinguished p hysicians, speak in equally high terms of the prophylactic properties of belladonna.—*Ibid.*

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5. *Atrophy of the Heart in Phthisis.*—Doctor Stokes said the specimens which he wished to present to the Society at that meeting were possessed of considerable interest. They were from the body of a man who had died of phthisis at a very advanced age. The heart presented an appearance which he believed had been remarked previously by only King of London, and R. Adams and R. W. Smith of Dublin. In the present case, there was atrophy to an extreme degree of the heart, a condition already remarked as occurring in chronic phthisis, the heart observing the law of the atrophy of voluntary muscles, but what he particularly desired to direct the attention of the Society to, was the atrophied state of the aortic valves in this specimen ; they were very thin, and in some places cribriform. The filaments corresponding to the perforations were as delicate as a spider's thread. The tongue of this patient was very red, smooth, and dry, but there was no inflammation of the stomach. This appearance of the tongue, usually designated *the beefsteak tongue*, has been also observed in fevers where there was no co-existent gastric affection ; it is, therefore, not to be viewed always as a proof of gastric disease. The cavern in the lung was very large, and contained but little fluid ; as it became dry the metallic sounds became audible ; in the early stage of the disease while there was fluid, there was gurgling, and the sounds could be modified by change of position. When the cavern had become dry, the expectoration ceased, but a little before death it was restored, and this was explained by finding in the opposite lung, two small recently formed cavities. One hydatid was found in the kidney. As during a part of the progress of this case, the cavity in the lungs gave the metallic sounds as observed in pneumothorax, the diagnosis from pneumothorax was based on the signs which indicated the costal and pulmonary pleura to be in opposition. [Proceedings of the Pathological Society of Dublin.] *Dublin Journal of Medical Science*, Nov. 1843.

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6. *Erosion of branches of the Pulmonary Artery traversing Tubercular Cavities.*—Dr. Cathcart Lees said he had to lay before the Society some interesting specimens of disease taken from the bodies of two children, who had died during the week in the South Union Hospital. In both cases there was pulmonary phthisis; in both the immediate cause of death was violent hæmoptysis, and in each case the hæmorrhage came from a similar source. The first case was that of a child three years old, affected with phthisis ; four days ago it was attacked suddenly by profuse hæmoptysis ; this was checked at the time by treatment, but returned after an interval of two days, when the child expired during the attack. On examining the body, the left lung was observed to be filled with tubercles, and contained a large cavity in the supero-posterior portion of its inferior lobe ; into this cavity a large branch of the pulmonary artery could be distinctly traced, from which the fatal hemorrhage had proceeded. At the base of the lung was another tubercular cavity quite distinct from the former ;

across the former cavity there passed several bands which were ascertained not to be pervious; the stomach was distended with blood of a black color and tarry consistence.

The second case was that of a child aged five years, also affected with phthisis, and who, like the other, had been attacked by sudden hæmoptysis, but one day earlier; from that time until its death it complained of constant pain in the side; the hæmoptysis was checked for two days, but returned then, as in the former case, to carry off the patient. After death, when the chest was opened, the left pleura was found full of a sanguineous fluid, in which there were several coagula; the lung was collapsed against the spine; in the inferior lobe supero-posteriorly there was a large ragged opening in the lung, communicating with the pleura; this opening was not lined by any membrane; there was round it a whitish line separating it distinctly from the surrounding part, which was flaccid, and of a livid green color; a branch of the pulmonary artery could be traced opening into the side of this cavity. The substance of the lung, as seen in the walls of the cavity, was sloughy and dark-colored, the whole exhibiting the appearance rather of a gangrenous abscess than of a tubercular cavity; both lungs were full of tubercles.

Dr. Lees observed, that the erosion of vessels in the lungs by ulceration was not frequent, but that besides these two cases in which it had occurred, he had been favored by his friend, Mr. R. W. Smith, with another instance of it, in a specimen taken from the body of a lunatic, in whose lung there was found a tubercular cavity, into which a blood-vessel opened in the same manner. Mr. Smith had also met with two other cases during his anatomical investigations, and Dr. W. Stokes had met with a case in which he had been able to transmit air through an artery into a similar cavity. Such cases are, however, of rare occurrence. [Proceedings of the Pathological Society of Dublin.]—*Ibid.*

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7. *Case of Atrophy of the Testicle from excessive Masturbation.* By R. H. Allnatt, M.D., A.M., F.S.A.—A few months ago, a young man, about twenty-two years of age, called upon me for advice. He entered the room with a timid and suspicious air, and appeared to quail like an irresolute maniac when the eye was fixed steadily upon him. In stature he was tall, and he had been evidently well-proportioned, but he was now emaciated, and his hollow eye and shrunken cheek, and dwindled frame, told the tale which he was desirous to withhold. After questioning and cross-questioning him in a variety of ways, and eliciting only indirect replies, I plainly told him my suspicions, when he suddenly started from his seat and exclaimed, "You see before you, Sir, a madman, a wretch, who has as completely committed an act of self-destruction as he who strikes the dagger to his own heart!" I entreated him to be composed and to relate calmly the whole history of his case. He then assured me that from a boy of fourteen he had been addicted to self-pollution, and, according to his account, to an almost incredible extent. The first symptom he noticed was a slight confusion of intellect, which had latterly amounted to a total inability to maintain a connected chain of reasoning. There was dull persistent pain over the brow, pain and weakness in the loins, and a disinclination to the most trivial bodily exertion. He was rapidly approaching a state of complete marasmus.

As I was pondering over the case, endeavoring to fix upon some mild unirritating tonic, he told me, in addition to the ailments he had enumerated, that he was "organically diseased;" and upon asking the nature and situation of this organic lesion he said his left testicle had wasted away, and that his penis had totally lost its erectile power. Upon examination I found that such was literally the fact. The parts were pendulous and flaccid, their virile powers were evidently destroyed, and the left testicle was dwindled to its mere fœtal rudiments, and was almost as yielding to gentle pressure as a piece of moist sponge. Superadded to all, he told me he was "engaged to a very amiable young lady," and he wished my advice how to act under the circumstances I have detailed.

Now, this I call a lamentable picture of human misery, and misery brought about by a species of self-infatuation, an unconquerable propensity, which it scarcely lies within the province of the medical practitioner to alleviate; for I believe that this wretched young man (and so I told him) on the slightest manifestation of returning power would revert to his vile and solitary habits as surely as the "sow to her wallowing in the mire," and so he thought himself, for so firmly was the vice rooted in him that I could merely extort a hesitating and reluctant assent to a solemn pledge which I entreated him to give of "total abstinence" for the future.

The case, which I have so imperfectly described, was altogether one of the worst and most hopeless instances of self-abuse I have witnessed, and the progressive stages were detailed by the unhappy sufferer with a facility which *experience* alone could produce. At first there were merely transient aberrations of the intellectual functions, which at a subsequent period degenerated into a settled gloom and imbecility. The physical energies, at the onset impaired, became weaker by degrees, and permanently prostrate. The vital affinities of the organ so long subject to unnatural excitement, were destroyed, the molecules entering into its composition were removed by the process of absorption, and, finally, the organ itself, with its elementary tissues, became atrophied in all its constituents.—*Lancet*, August 5th, 1843.

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8. *Advantage of System in Medical Inquiries.*—I advise a systematic arrangement in each case; observe the state of the pulse and skin; feel the head (in insane patients), whether it is hot all over, or in one part only; whether the extremities are cold; whether the tongue is loaded and dry; whether the bowels are open, the urine free, and, if the patient be a female, whether the catamenia are regular. Next observe the breathing and the action of the heart, pass your hand over the right hypochondrium, and feel whether the liver be enlarged, or whether the abdomen be distended with flatus, and whether there be tenderness about the precordia. Examine also the beating of the carotids, and the temporal arteries.—*Lancet*, August 19, 1843.

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9. *Blood diseased in Glanders.* By M. Renault.—M. Renault made a number of experiments to ascertain whether the blood of an animal, laboring under glanders, could communicate the disease to a healthy animal. A horse was inoculated with pus taken from a man laboring under glanders; the horse was soon thereafter seized with the disease. Before killing it a quantity of blood (10 fluid ounces) was taken from its jugular vein, and injected into the veins of a healthy horse. At the end of three days this horse was seized with acute glanders; and blood drawn from it, and injected into the veins of another healthy and vigorous horse, in its turn produced acute glanders also in three days. From these and such-like experiments, M. Renault concludes that the blood is essentially diseased in this fearful malady.—*Ed. Med. and Surg. Jour.* from the *Bul. de l'Acad. de Med.*

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10. *Treatment of Cephalalgia.*—Dr. R. Howard prescribes, with success, for nervous and various other headaches, a mixture of a drachm of acetic acid, an ounce of compound tincture of cardamoms, and four ounces of some convenient vehicle, of which he directs a mouthful to be taken every twenty minutes.—*Lancet.*

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11. *Poultices made with Sea-water.*—We rarely find sea-water used in making flaxseed poultices, notwithstanding the fact that John Hunter often prescribed them; and as he considered, with decided benefit, for buboes and rebellious ulcers existing in scrofulous subjects.—*Annales de Thérapeutique.*

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12. *Remedy for Cough.*—The abrupt violation of the decencies of social existence is one of the most annoying consequences of coughing and sneezing. If

you happen to have a catarrh, and are not endowed with sufficiently strong powers of mind to be able to resist a paroxysm of coughing, place the end of your fore-finger upon the end of your nose, if you have a nose. In the absence of this central organ, rub your eyes as if you had been magnetized, and look at your watch. If the fit of coughing does not pass off, you will at least pass for an accomplished gentleman.—*Med. Chi. Rev.*, October, 1843.

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

13. *Recent Discovery by Mr. Liston, of Spermatozoa, in the fluid of an encysted Hydrocele of the Testis.*—In an appendix to Curling's recent work on the Diseases of the Testis, etc., the author says :

" After Chapter IV., Section 3, which contains an account of encysted hydrocele of the testis, had passed through the press, I was informed by Mr. Liston that on recently examining some rather milky-looking fluid removed by operation in a case of this affection, he had discovered myriads of spermatozoa in it in a lively state, and he has favored me with a view of some of them which were preserved. Mr. L. thinks that this interesting fact may indicate the mode of development of encysted hydrocele ; and if further observation should prove that the cyst originates in a dilatation of one of the tubes of the epididymis, that the mucous character of the sac would explain the difficulty which exists in procuring their obliteration by injection. According, then, to this supposition, encysted hydrocele of the testis very much resembles, in its mode of development, the swelling formed by a dilatation of the duct of the submaxillary gland termed *ranula ;* but as this view is opposed to that which I have been led to take of the origin of this affection, I availed myself of an early opportunity of carefully examining, in several recent testes, the small serous cysts which are so commonly developed in the head of the epididymis ; and in which I concluded, after numerous dissections, that this form of hydrocele commonly originates. I can now state that I have found no reason to question the accuracy of this explanation. In the testis with a single cyst at the head of the epididymis, removed from a man aged twenty-one, who died of fever, abundance of spermatozoa were observed in the contents of the epididymis, but none could be detected in the clear pellucid fluid of the cyst. The cyst was distinctly seen to be unconnected with the seminal ducts ; and on examination in the microscope its internal surface exhibited the characters of a serous membrane. I am inclined, therefore, to believe that the occurrence of spermatozoa in Mr. Liston's case was accidental, owing probably to the rupture of the seminal canal, which permitted an escape of the spermatic fluid."

In the Medico-Chirurgical Review, for October, we find the following on the same subject :

" At a late meeting of the Royal Medical and Chirurgical Society, it was announced that Mr. Loyd had found, by the aid of the microscope, numerous spermatozoa in the fluid drawn off by tapping in two cases of common hydrocele. The first case occurred in the early part of last winter. About three months afterwards the second case occurred. The patient was sixty-three years of age, and had been operated on for hydrocele about fifteen times. Sixteen ounces of a highly albuminous greenish-yellow fluid were drawn off. The author counted forty of these animalcules in one drop of this fluid ; some of them were observed to retain their power of motion for three hours after the fluid had been evacuated. Blood-globules, transparent cysts, and small granular bodies, with portions of epithelium, or what much resembled it, were likewise found in the fluid.

" At a subsequent meeting of the Society, M. Childs stated that he had met with a third case of hydrocele in the fluid of which an immense number of spermatozoa were present. The fluid was of paler color than that of common hydrocele of the tunica vaginalis, and very much resembled water with which a very small quantity of milk had been mixed. When tested with nitric acid, and also with heat, the fluid was found to contain a considerable quantity of albumen. There was also much saline matter in it. When examined with the microscope from three to four hours after it was drawn off, there were seen spermatozoa in a living state, and also an immense number that were dead: moreover, the fluid contained a few blood-discs, transparent cysts, granular bodies of different sizes, and epithelial scales. The testis and its appendages were healthy. From the situation and form of the tumor it appeared that the liquid was contained in the tunica vaginalis.

"Mr. Childs had examined the fluid of many hydroceles, but had never met with any animalcules except in these three cases."

14. *Solvent for Urinary Calculus.*—At the sitting of the Academy of Sciences (Paris), October 9th, a letter was received from M. Millot, stating that he had discovered a solvent for the stone in the bladder. M. Millot does not, like most of the medical men who have directed their attention to the means of dissolving stone, have recourse to drugs which are considered as dissolvents, but which, while they materially derange the general system, lose their power when absorbed, and never produce any sensible effect upon calculi. He recommends local application, and communicates some facts which he regards as conclusive of the efficacy of his plan. M. Millot informs us that having been induced, in the course of some experiments and reasoning by analogy, to suppose that the gastric juice of animals injected into the bladder would dissolve a calculus lodged in that organ, he tried this liquid repeatedly, and always with success. The information is thus far important; but it does not appear that M. Millot has ever tried the gastric juice upon the living organ. His experiments have been performed upon calculi in his own laboratory. Is it certain that the result would be as satisfactory if the experiment were tried upon the living subject? Is there no danger of injury to the coats of the bladder from the presence of the gastric juice? It may be replied that gastric juice is a natural secretion of the stomach, and that it would not be likely to injure any other organ. This, however, is supposition, not fact. Nature may have made the stomach to a certain degree insensible to injurious action, from a secretion elaborated by itself; but would this be the case with another organ, and has it not been asserted that in the stomach itself, where food had long been absent, cases had occurred of very serious lesions by the gastric juice? These were questions put to each other by several of the Academicians when M. Millot's letter was read; but, on the whole, it excited great interest, as a step towards the removal of one of the greatest afflictions to which human nature is exposed. Lithrotity in many cases does much for the relief of the sufferer; but there are others in which it is not at all applicable, and not unfrequently, when it is applied even with success as regards the removal of stone, the derangement of the general system caused by repeated operations leads to serious and even fatal results. A solvent, therefore, which should have the desired effect, without injury to the organ to which it should be applied, would be the greatest blessing of the age.

15. *Perforating Ulcer of the Appendix Vermiformis.*—Doctor Lees laid before the Society some recent specimens of disease of the intestines in children. The first were from a child four years old, that had died during this week in the South Union Hospital. This child had been suffering from chronic diarrhœa, and was in a state of great emaciation: the discharges from the bowels were intermixed with shreds of lymph, in the membranous form, but there were no sanguineous dejections: there had been incessant vomiting during two days previous to death: the large intestine was very vascular, and all its coats thickened: beneath the mucous membrane were several ecchymosed spots; the vascularity was greatest in the rectum: the lower portion of the ileum also was very vascular, thickened and coated internally with adherent lymph: the coats of the stomach were thickened, and there was a deposition of lymph on its mucous surface, similar to that on the ileum: the mucous membrane itself was of a brown color, and very vascular, presenting an appearance similar to that

called *mamillary* by Louis, and *granular* by Hodgkin. From the pylorus to the ileum, the intestine had no unhealthy appearance.

The next specimens were from a child of fifteen months old, which had been admitted only a week previously, at which time it was described to have been laboring under chronic diarrhœa. On examination of the body after death, the mesenteric glands were found affected by tubercle: the mucous surface of the large intestine was thick, warty, and vascular; but the most remarkable lesion was in the appendix vermiformis, about the middle of which was observed a large patch of green lymph, which covered an ulcer that had nearly perforated into the peritoneal cavity: the mucous membrane appeared to have been removed round a large portion of the tube of the appendix, and in the centre of this ulcerated part, was the minute perforation, which was only prevented from communicating with the sac of the peritoneum by this deposit of bright green lymph; there was no peritonitis, Dr. Lees said that this case was interesting, on account of the early age of the subject, as, although many cases are on record, and the pathological lesion has been fully described, yet the earliest age hitherto mentioned at which it had occurred, was six years, in a case described by Dr. Burne, in his Memoir on Tuphloenteritis, published in the Medico-Chirurgical Transactions.—[Proceedings of the Pathological Society.]—*Dublin Journal of Medical Sciences*, Nov., 1843.

16. *Vegetations on the Semilunar Valves, causing Patency.*—Dr. Stokes said, the specimen which he then produced to the Society, was one of interest in the diagnosis of permanent patency of the aortic valves. The subject of the case had been three months ill, and was subject to difficulty of breathing on taking exercise. There was a double bellows murmur along the sternum, and visible pulsation of the arteries near the surface. The diagnosis was made in accordance with the rules laid down by Dr. Corrigan. When the body was examined after death, the amount of the patency of the aortic valves was discovered to be less than had been anticipated from consideration of all the symptoms during life. The valves were patent to only a slight degree. Water poured into the aorta passed into the ventricle, proving that regurgitation might have happened during life. The imperfection of the valves appeared to be caused by a vegetation on their cardiac aspect. There was also considerable dilatation of the ascending aorta. Might not this, inquired Dr. Stokes, have a similar effect to permanent patency of the valves in producing the throbbing? In both cases there is a cavity and regurgitation into it of a column of the blood. [Proceedings of the Pathological Society.]—*Ibid.*

17. *Detached Bodies found in Bursæ.*—Doctor Hutton said he wished to lay before the Society some specimens of the bodies found in bursæ. They were removed from the upper extremity of a laboring man, a bricklayer, who about a year ago had sprained his wrist. About six months ago he perceived for the first time a tumor which extended from about two inches above the annular ligament of the wrist to the palm. (The appearance it presented could be seen in the cast which Dr. H. then produced.) There was a sense of fluctuation in the tumor. The fingers were contracted, and the index finger still continues incapable of extension. This patient was admitted into the Richmond Hospital on 19th January. The tincture of iodine was tried as a means of promoting absorption, but no effect was obvious on the tumor. It was then determined to operate. On the 2d of February an incision was made into the lower part of the distended bursæ, and the sac emptied of the foreign bodies. Cold water dressing was applied, and the case was progressing favorably (up to the time of Dr. Hutton's communication). In Dupuytren's cases the after treatment was very different; inflammation was excited in the sac by a seton with the view of obliterating the cavity, but the result was frequently a serious inflammation, and even the formation of an abscess in the forearm. The detached bodies produced by Dr. H. were of several shapes. The greater number were oval, but some were triangular. They consist of a matter of the consistence of rice half boiled; the structure is lamellated, the nucleus soft. As to the nature of these

bodies, the opinions are various. Dupuytren considers them to be hydatids or parasitic cysts, but Dr. H. said that he could not by the most careful examination detect any cavity within them, nor any trace of sucking apparatus. Brodie considers them to originate from masses of lymph. Cysts found in the peritoneum were probably of an analogous nature, and these Dr. Hodgkin ascribes to deposits of unorganized lymph, which, after some time, gradually assume a capsular form enveloping some of the fluid of the abdomen. Dr. Hutton inclined to the opinion that these loose bodies owed their origin to effused lymph, that they were increased in size by new deposits, that their shape was modified by the tendons in their neighborhood, and that even within one bursa there might be some of different ages. He was uncertain whether such as were attached by pedicles might not become completely detached, and he mentioned that his experience of these cases showed that a return of the complaint after their removal was by no means unusual. [Proceedings of the Pathological Society.] —*Ibid.*

18. *Hernia, Hydrocele, and Spermatocele.*—Mr. R. W. Smith presented a specimen of a remarkable combination of morbid states. It consisted of a hernia, a hydrocele, and a spermatocele; the hydrocele lay at the most inferior part, above it was placed the hernia; the enlarged and varicose vessels constituting the spermatocele occupied the posterior part of the hernia and hydrocele, but were largest in the interval between these tumors; the component parts of the cord were widely separated from one another; the vas deferens being placed nearly directly in front of the hernia, but behind the hydrocele; and had the hernia become strangulated, and an operation been rendered necessary, this tube would in all probability have been wounded. [Proceedings of the Pathological Society.]—*Ibid.*

19. *Orthopedy.*—In a semi-official report of the proceedings of the Scientific Congress of Strasburg, published by one of the vice-presidents, we find it stated that one of the members, Dr. Kuhn, of Paris, formerly an assistant at the institution of la Müeth, asserted that Dr. Jules Guérin had cured five out of nine individuals laboring under abscess by congestion, by his new method of subcutaneous puncture; and that out of 160 patients affected with spinal deviations, the same orthopedist had practised 350 sub-cutaneous sections of the dorsal muscles, which produced, in some instances, *an instantaneous cure;* in others, positive cures with the assistance of consecutive treatment; in others, a decided improvement; and that there were but very few whose condition was not benefited. It would appear, however, from recent observations, that Monsieur Guérin has never accomplished the results that M. Kuhn was commissioned to report to the Congress.—*Annales de Thérapeutique.*

20. *Gravel removed by Aspiration.*—At a late meeting of the Academy of Sciences, Monsieur Cornay submitted the details of some cases in which he had been able to remove gravel by means of a new instrument of his invention, and through the agency of aspiration. The instrument is called a Lithéréteur.

21. *Paraphymosis cured by Cold Affusion.*—In 1834 a French soldier was received into the hospital at Nismes for paraphymosis consequent on a blennorrhœa of the most intense kind, and which had lasted for a fortnight. Previously to the man's reception, the regimental surgeon had attempted the reduction of the evil by scarifications, &c., without success, and other ordinary means were adopted by the hospital surgeons to as little purpose. The glans penis was swollen, dark-colored, and acutely painful. The application of cold was now thought of, and made in the following manner:—The patient was seated in a chair, and the operator in front of him, raising the organ affected between his thumb and forefinger. A stream of cold water was now let fall from the height of about a yard, upon the glans, which in a few minutes began to lose its high color, and diminish perceptibly in size; and in five or six minutes from the commencement of the process, the organ was so much smaller that reduction became easy.

Since the period named (says the Journ. de Conn. Med. Chir.) the surgeons of the Nismes hospital have always had recourse to the douche, as above, in cases of paraphymosis, where reduction was unattainable without incision, and in such cases cold affusion applied as above has always proved efficacious.—*Lancet*, August 12th, 1843.

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22. *Removal of Calculi from the Bladder of a Horse.*—We extract the following from the London Medical Gazette for June last, written by Mr. Mogford, V. S.:

My attention has been arrested by an article in your number for January, on lithotomy; a few observations on which, as they are the result of my own experience, will not, I am sure, give offence to that justly respected operator, Mr. Field. I cannot forbear from again expressing my surprise that, in operations of this kind, veterinary surgeons do not make use of the means so peculiarly accessible to them, viz., inverting the bladder through the rectum. Mr. Percivall has very kindly noticed my mode of operation in the third volume of his Lectures and the second of his Pathology.

I first extracted a stone from the bladder in this way in the year 1820, and the case was published by Mr. White in 1824. No operation could be more simple or less exposed to dangerous consequences. There was no inflammatory symptom whatever, and the horse was soon after hunted. In fact, all that is required is a scapula and a probe-pointed bistory, for the arteries are easily avoided without any guide.

In proof of my assertion I may state that I have more than once introduced a stone into the bladder, and extracted it in the same way.

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23. *How to make Leeches Bite.*—The leech which it is intended to apply is to be thrown into a saucer containing fresh beer, and is to be left there till it begins to be quite lively. When it has moved about in the vessel for a few moments, it is to be quickly taken out and applied. This method will rarely disappoint expectation, and even dull leeches, and those which have been used not long before, will do their duty. It will be seen with astonishment how quickly they bite.—*Dublin Med. Press*, from *Weitenweber's Beitr., and Schmidt's Jahrb.*

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24. *Cure of an erectile Tumor of the Face by means of the Vaccine Virus.* By M. Pigeaux. (*L'Experience*, 5th January, 1843.)—The tumor was the common erectile tumor so often observed in infants. It was not noticed at birth, but when the child was about six months old, appeared of about the size of a pin point on the forehead, when it rapidly enlarged to its present dimensions, nearly an inch square, and projecting about three lines above the surface of the adjoining integuments. The tumor nearly disappeared under pressure, but returned the moment the pressure was removed; and whenever the child cried or forcibly exerted itself, it swelled up and became of a deeper red color. It was resolved, on consultation, to try the efficacy of the vaccine virus. The vaccine virus was introduced carefully below the cuticle in nine places over the tumor itself. Very little blood oozed from the slight scratches, but was easily arrested by pressing over the tumor with the point of the finger dipped in fresh vaccine virus. Two scratches were at the same time made over a similar tumor which was situate in the lumbar region.

On the fourth day the vaccine pustule began to show itself. The tumor became of a brown color, and was swollen, and seven small pustules appeared over the tumor, but they remained small till the ninth day. At this period they enlarged much and became confluent. On the twelfth day the crusts formed, and the tumefaction of the erectile tissue was visibly abated. On the twenty-fifth day the crust became detached, when it was found that the surface of the tumor was destroyed, its surface was reduced below the level of the surrounding skin, but the bottom of the wound still contained some red areolar tissue from which blood oozed. This was dressed with powdered alum, and compresses applied, and when the wound healed the tumor was found to have completely disappeared.

The two scratches which had been made on the lumbar tumor had also produced vaccine vesicles, but they had not coalesced, did not include the whole tumor, and when the scales fell off they left a portion of the erectile tumor untouched between them.

From the success of the operation on the tumor on the face, M. Pigeaux recommends that the whole surface of the tumor be, if possible, included in the vaccine inflammation; and, instead of the punctures being made at the circumference of the tumor, that they be made over the whole surface. No portion of the tumor will then escape the inflammatory action, and the disease will stand every chance of being permanently removed.—*Edinburgh Med. and Surg. Journal*, October, 1843.

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25. *On the Employment of Belladonna in the Treatment of Phimosis and Paraphimosis.* By M. De Mignot. (*L'Experience*, 15th December, 1842.)—M. de Mignot having derived benefit from the application of an ointment of belladonna in cases of phimosis and paraphimosis, recommends its employment in every case before having recourse to the knife. The ointment is made in the proportion of 12 grains of the extract of belladonna to 30 grains of simple cerate, and with this the prepuce is rubbed every hour. The dilating power of the belladonna soon begins to act, and in many cases an operation may be avoided. When the inflammation is violent and the pain intense, he recommends to add a little opium and mucilage of quince seeds.—*Ibid.*

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26. *Statistics of Strangulated Hernia treated at Wurtzbourg, from* 1816 *to* 1842 By M. Textor. (*Revue Medico-Chirurgicale de Paris*, January, 1843.)—The number of cases of strangulated hernia treated from 1816 to 1842 was 172. Of these, 98 were inguinal; 71 crural; and 3 umbilical. Of these, two died before they were treated by taxis or operation. Of those treated by the taxis, 105 were cured, and 9 died. Of those subjected to an operation, 32 were cured, and 24 died. Of the 71 crural hernia, 65 occurred in women, and only 6 in men. Of the 98 inguinal hernia, only 13 occurred in women, but 85 in men. It is stated that the average mortality of operations for strangulated hernia at Paris is 4 out of every 7 cases. At Wurtzbourg, it was only 3 out of every 7.—*Ibid.*

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27. *An elegant Sticking Plaster.*—Black silk is strained and brushed over ten or twelve times with the following preparation:—Dissolve ℥ss. of Benzoin in f℥vi of rectified spirit; in a separate vessel dissolve ℥j. of isinglass in water; strain each solution, mix them, and let the mixture rest, so that the grosser parts may subside; when the clear liquor is cold, it will form a jelly, which must be warmed before it is applied to the silk. When the plaster is quite dry, in order to prevent its cracking, it is finished off with a solution of terebinth. chia. ℥iv. in tinct. benzoes f℥vj.—*Medical Times, April* 15, 1843.

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28. *On the Local Treatment of Chancres.* By Dr. Strohl.—The more rapidly primary syphilis is cured, the less likely are secondary symptoms to appear. The first object is most easily attained by cauterizing. Sometimes, however, this method is inapplicable, for instance, when the sore is very extensive, or much inflamed. In such cases, the author employs the sulphate of copper. The sores are dressed five or six times a day with charpie, which has been soaked in a solution of about a grain and a half of sulphate of copper to an ounce of water. Simple chancres, when thus treated, usually heal within twelve days. Dr. Strohl assures us, that he cures complicated chancres in an equally short time, with an ointment, composed of two grains of cyanuret of mercury to an ounce of axunge. This ointment is spread upon a piece of linen corresponding to the size of the sore. This dressing is apt to be painful at first, and it must occasionally be taken off, after it has been on for an hour or two, and the remedy must be applied in a weaker form. The pain is said to be most violent in half an hour or an hour, and frequently ceases entirely in two or three hours. When the chancre is extensive and painful, after the ointment has been

on from four to ten hours, according to the sensibility of the patient, it is dressed with mercurial ointment, or opium cerate.

If the edges of the chancre have flattened, if the centre is cleaner, the pain less, and the suppuration healthy (which may occur after the first application of the cyanuret of mercury, but, at any rate, not later than the fourth), the treatment with the sulphate of copper is finished.—*Medical Gazette*, Nov. 11, 1843.

29. *Neuralgia from Sympathy with a Diseased Tooth.*—A woman, twenty-seven years of age, was accustomed to be awakened at night with a sharp and lancinating pain—in fact, tic douloureux—in the left cheek, which extended to the temple, to behind the ear, and along the anterior border of the trapezius muscle. An hour or two in the morning, during which she slept, appeared to be the sole respite she had from pain. All kinds of rubefacients and narcotics were employed, without any more than momentary benefit, when it was perceived that the second molar tooth was carious, and after some delay it was extracted, when all the pains immediately ceased. Only the enamel of the tooth had been decayed; its roots were sound.—*Gazette des Hôpitaux.*

30. *On the Use and Abuse of Filing to remove Irregularities of the Teeth.*—There are many instances in which it is advisable and safe, as well as ornamental, to file the teeth; but as it is usually practised, nothing can be more pernicious.

Since it cannot be supposed that any man is so lost to shame and humanity as to expose his patient to pain and inconvenience during life, merely for the sake of a trifling fee, the indiscriminate filing of teeth, so common at present, should be imputed only to ignorance, and may, I hope, be checked, by placing the subject in a clear light, and by drawing the line to distinguish where it may, and where it may not, be practised with safety.

1. In people far advanced in years, the teeth may be filed into order without any inconvenience; because the nerves are lost, the teeth can feel no pain in the operation, nor afterwards from cold, acids, or sweets, and because they are not then so much subject to caries or decay.

2. Where a tooth projects beyond the common level, and hinders the rest from meeting equally, or receives, on itself alone, all the pressure which should fall divided on a whole set, there filing is necessary, at any age, to remove the greater evil.

3. Filing is necessary and advisable to remove sharp points, occasioned by fracture or otherwise, which irritate and wound the lips and tongue; because, in this case, the bony part of the tooth is already exposed, and cutting off the sharp prominences cannot make it more liable to caries or pain than it would otherwise have been.

4. Where a tooth points obliquely against the tongue, or against the lips, as often happens on account of the resistance of the milk-teeth, it is necessary to round the edge by filing, to prevent its wounding the soft parts.

5. When the edges of the fore teeth are uncommonly sharp and thin, and therefore apt to splinter, it is very proper to file them down, to give them a more obtuse and durable edge.

6. Filing is likewise advisable to remove caries, to prepare a tooth for the reception of a new crown, and in a few similar cases, related in the second part of this treatise.

7. When the teeth stand irregularly, and are too broad to admit of being reduced to one uniform line, filing between them, to lessen their size, may be practised to a certain degree; but great care should be taken not to cut away the enamel totally, as is too often practised on this occasion.

If a man had no feeling, nor any other use for his teeth but for the ornament of his countenance, I should not limit the use of the file to these cases only. But since most people, from infancy to middle age, feel insufferable pain the very moment the file touches the bony substance, and since this pain must be very often repeated, because each successive surface of the osseous substance must have some time to wither, and lose a part of its sensibility, before it can admit of filing beyond a certain depth; since it happens, likewise, that the enamel once removed, is never regenerated; that a tooth in this naked state is for a long time affected with pain from the slightest impressions of cold, acids, sweets, etc.; that it wears away quickly, and is very much subject to decay, I cannot join to support the common practice of indiscriminate filing; I think it should be confined to the cases above related, for I believe it is advisable in these only.

Hence it is, that I so frequently refuse to perform this ornamental operation for my patients, and that I have often advised young people, who have credulously listened to advertisements and promises of this kind, never to barter a sure and valuable blessing for such a painful, dangerous, short-lived ornament: for ill-set or irregular teeth may last healthy and unpained to the latest period of life, and the deformity in general is not very great, provided they are kept clean, white, and polished.—*Berdmore's Treatise on the Disorders and Deformities of the Teeth and Gums.*

31. *Decadence of a brilliant Operation!*—How, in the name of all that is wonderful, comes it that we never hear now of dividing people's tongues—or, as we heard an elocution professor once tell a public audience, of cutting people's throats—for the cure of stammering? This great achievement of modern surgery has lasted just about as long as a fashionable novel usually does: before a twelvemonth has expired, it is not even talked of. Last year the weekly periodicals teemed with cases of wonderful cures effected "slick off in a twinkling;" and now, alas! there is an utter dearth of anything that excites curiosity. By mere accident we noticed the heading of an article in a late number of the Annales de la Chirurgie—by-the-bye, one of the best of the French journals—on the treatment of stammering by dividing the genio-glossi, and we were curious enough to see what the author would now say upon the defunct subject. With most praiseworthy candor, he tells his readers that, although he met with very decided success in some cases, the result of the operation in his practice, on the whole, was so unsatisfactory that for the last eight months he had entirely given it up. The editor of the journal, in a foot-note, remarks: "It is this conclusion alone that has induced us to insert the memoir of M. *Cloesser*, for it is more remarkable for its good faith, than for any importance of its statements." —*Med. Chir. Rev., Oct.*, 1843.

32. *Iodine Injections in Hydrocele.*—The use of the tincture of iodine, more or less diluted, in cases of hydrocele as an injection, in lieu of wine, &c., is becoming more and more generally adopted by the French surgeons. M. *Velpeau* has recently written a long memoir, strongly recommending it; and we observe that M. *Pasquier*, surgeon of the Hôtel des Invalides in Paris, reports most favorably of its effects. It seldom produces much pain, even when the injection is strong; and, according to the experience of several surgeons, it seldom or never fails in producing the wished-for adhesive inflammation.

The action of the tincture of iodine on the skin appears to be very similar to that of a strong solution of the nitrate of silver; it stimulates the part for a short time, and then soothes irritation and pain. We have seen good effects from applying it daily to the integuments covering scrofulous and other indolent abscesses. Recently it has been recommended as very useful in strumous, and other kinds of ophthalmia when applied on the outside of the eyelids. It seems to act as a gentle counter-irritant or derivative, in the same manner as the nitrate of silver does.—*Ibid.*

OBSTETRICS AND DISEASES OF FEMALES.

33. *Effects of Menstruation on the Secretion of Milk.—Academy of Medicine.*—M. Raciborski read a memoir on this subject. His conclusions were drawn from seven cases of women who continued to menstruate during the whole or greater part of the period of suckling. They are—

1. That, contrary to the generally received opinion, the milk of nurses who menstruate during the period of suckling does not differ in any appreciable manner from that of nurses who do not menstruate.

2. The only difference worth noting is, that it contains less cream—a fact on which the bluish color of the milk from some women depends.

3. That the inconveniences of allowing a woman to nurse during menstruation, have been greatly exaggerated, and that a nurse should never be rejected on this account alone.—*Provincial Medical Journal.*

34. *Tannin in Uterine Hemorrhage.*—M. Dumars has published a communication in the Journal of the Society of Practical Medicine, at Montpelier, containing the detail of several cases in which he successfully employed tannin internally in the treatment of uterine hemorrhage. A woman, twenty-five years old, three months advanced in pregnancy, while travelling in a wagon, was seized with a severe colic, which was followed by a frightful uterine hemorrhage. A midwife plugged the vagina, and applied cold lotions to the abdomen and thighs, but without advantage; the plug was expelled. When M. Dumars arrived, the patient was in a state of complete syncope, and death approaching. He ordered pills containing two grains of tannin with a small proportion of opium, one to be taken every hour. By the time she had taken the sixth pill, she fell asleep, and when she awoke, three hours afterwards, the hemorrhage had almost stopped, and had entirely ceased by the next day. The pills were continued every three hours.

In this case the tannin was given in the form of pills; but circumstances may arise during syncope, in which, from the difficulty of swallowing, it may become impossible to administer it in that form. In such cases, M. Dumars prescribes it in the form of draughts or injections. Miss ——, six months pregnant, was seized with violent hemorrhage, after having experienced a severe mental emotion. When seen, she was in a very alarming condition; the abdomen was hard and tympanitic, the skin cold, face pale, the mouth wide open, pulse feeble and intermittent, and complete insensibility. The os uteri was partially dilated, and abortion was very nearly occurring, in fact the slightest delay might prove fatal. M. Dumars ordered four scruples of tannin to be infused for ten minutes in a pint of boiling water, and then to be injected slowly into the bowels. The thighs were brought together, and kept so in a state of flexion, by means of a napkin and pillow, and warm clothes were applied all over the body, after which the following medicine was given, in the dose of a spoonful every half hour: Ninety-six scruples of water of black cherries, sixteen scruples of orange flower water, forty-eight scruples of linden water, ten grains of pure tannin, forty-eight scruples of syrup of diacodium. The medicine was administered by means of a funnel. After the lapse of three hours Miss —— opened her eyes, and the pulse increased in power; some spoonfuls of soup were then given. On examination the hemorrhage was found to have nearly ceased. Twenty-four hours afterwards the patient had recovered her senses; the os uteri had closed, and the bleeding was arrested The movements of the child were felt soon afterwards. The mother went her full time, and had a happy delivery.—*Ibid.*

35. *Œdopsophia, or Noisy Expulsion of Gas from the Vagina.*—This affection occurs in women (especially lame women) whose inferior vulvar aperture is narrow. Oftentimes no symptom precedes it, and the patient is not aware of the existence of the complaint until the noisy expulsion occurs. The distended state of the parts may be felt by examination by the rectum, and the gas in part expelled by pressing on the hypogastrium. When the affection arises from a foreign body in a state of putrefaction, it will cease on the removal of this; but in instances where none such existed, Lisfranc has frequently rendered the patient's condition much more supportable, by instructing her, prior to going into society, or, under any circumstance where the unexpected expulsion would prove annoying, to secure herself from this, by introducing a finger into the inferior aperture of the vulva, and thus give vent to it. In examining females for other

complaints, he has frequently detected this affection, although concealed by the patients, and has always succeeded in affording great comfort by the above suggestion. If the vagina is capable of secreting this gaseous substance, it is from its being in a condition of inflammation or irritation, and therefore means of a mild antiphlogistic character, modified by circumstances, must be had recourse to, *e. g.*, venesection, warm baths, lavements, etc.—*Med. Chir. Rev., Oct.*, 1843, from *Lisfranc's Clinique Chirurgicale de l'Hôpital de la Pitie.*

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

36.—*The Poison of Copper eliminated through the Lungs.—Academy of Sciences.* Sitting of 24th July, 1843.—Messieurs Flandin & Danger presented a memoir on the means of detecting the existence of poison in the human body. A curious and interesting fact is communicated in this paper. It has been laid down as a general rule that metallic poisons, administered for some time previous to death, are eliminated from the human system through the agency of the urinary organs. MM. Flandin & Danger assert that this is not the case in poisoning by copper, but that this poison is taken into the lungs, and discharged in the perspiration from the chest, in which secretion it may be easily discovered with proper tests.

37. *Arsenic administered to Sheep.*—Professor Berreti, of Turin, had recently a public exhibition, at which he proved by experiments upon sheep, that when arsenic is taken in fatal doses, the secretion of urine is *entirely suppressed.—Annales de Thérapeutique.*

38. *Toxicological effects of Sulphate of Quinine.* By M. Melier. (*Comptes Rendus des Séances de l'Academie des Sciences.*)—M. Melier read a memoir to the Academy, in which he gave an account of some experiments of Magendie on the effects of poisonous doses of sulphate of quinine. Dogs were poisoned with this substance, and on dissection distinct fluidity of the blood was observed, and morbid engorgement of the parenchyma of the lungs. M. Melier, therefore, cautions against administering the large doses which it has been the practice of late to do, and urges its more cautious employment.—*Edinburgh Med. and Surg. Journal*, October, 1843.

39. *Death from Lucifer Matches.*—Two cases of death have been lately reported from this cause, in England. In one instance, in London, a child, 3½ years old, poisoned herself by sucking the ends of some French Congreve matches. At the inquest, it was stated that they were composed of oxymuriate of potash and phosphorus.

The other case, as quoted in the *London and Edinburgh Monthly Journal of Medical Science*, occurred at Lancaster; and this little patient, aged but six months, also sucked the ends of some lucifer matches.

About eight hours after, violent sickness came on, which continued a night and a day; the matter vomited was luminous, and as well as the breath, emitted a strong phosphorescent odor. After the cessation of the sickness, the child lay in a drowsy, comatose state, until within a few hours of its death, when it was seized with violent convulsions, and died in one of the paroxysms. This occurred on the fifth day. Its bowels during the whole time had been sluggish, requiring enemas constantly in order to cause evacuations.

On dissection, twelve hours after death, a large injected patch was found near the pyloric orifice, and the mucous membrane was thickened and softened. The duodenum and jejunum were healthy, but along the whole course of the ileum, there were several oblong patches of thickened, softened, and, in many places, ulcerated mucous membrane. The colon and rectum were healthy; the liver pale and somewhat indurated; the lungs and pleura healthy.

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40. *Answers returned by the Fifteen Judges to the Questions on the "Plea of Insanity," submitted to them by the House of Lords.*—The answers were read in the name of all the judges, excepting one (Mr. Justice Maule), by Lord Chief Justice Tindal, on the 19th June, 1843.

Question I. What is the law respecting alleged crimes committed by persons afflicted with insane delusion, in respect of one or more particular subjects or persons: as for instance, where at the time of the commission of the alleged crime the accused knew he was acting contrary to law, but did the act complained of with the view, under the influence of some insane delusion, of redressing or avenging some supposed grievance or injury, or of producing some supposed public benefit?

Answer. The opinion of the judges was, that notwithstanding the party committed a wrong act, while laboring under the idea that he was redressing a supposed grievance or injury, or under the impression of obtaining some public or private benefit, he was liable to punishment.

Quest. II. What are the proper questions to be submitted to the jury, when a person alleged to be afflicted with insane delusion, respecting one or more particular subjects or persons, is charged with the commission of a crime, murder for example, and insanity is set up as a defence?

Ans. The jury ought, in all cases, to be told that every man should be considered of sane mind until the contrary were clearly proved in evidence. That before a plea of insanity should be allowed, undoubted evidence ought to be adduced that the accused was of diseased mind, and that at the time he committed the act he was not conscious of right or wrong. This opinion related to every case in which a party was charged with an illegal act, and a plea of insanity was set up. Every person was supposed to know what the law was, and therefore nothing could justify a wrong act except it was clearly proved that the party did not know right from wrong. If that was not satisfactorily proved the accused was liable to punishment; and it was the duty of the judge so to tell the jury when summing up the evidence, accompanied by those remarks and observations which the nature and peculiarities of each case might suggest and require.

Quest. III. In what terms ought the question to be left to the jury as to the prisoner's state of mind at the time when the act was committed?

No answer was returned to this question.

Quest. IV. If a person, under an insane delusion as to existing facts, commits an offence in consequence thereof, is he thereby excused?

Ans. If the delusion were only partial, the party accused was equally liable with a person of sane mind. If the accused killed another in self-defence he would be entitled to an acquittal; but if the crime were committed for any supposed injury, he would then be liable to the punishment awarded by the laws to his crime.

Quest. V. Can a medical man, conversant with the disease of insanity, who never saw the prisoner previously to the trial, but who was present during the whole trial and the examination of all the witnesses, be asked his opinion as to the state of the prisoner's mind at the time of the commission of the alleged crime, or his opinion whether the prisoner was conscious, at the time of doing the act, that he was acting contrary to law? or whether he was laboring under any, and what delusion, at the time?

Ans. The question could not be put in the precise form stated above, for, by doing so, it would be assumed that the facts had been proved. When the facts were proved and admitted, then the question, as one of science, would be generally put to a witness under the circumstances stated in the interrogatory.

Mr. Justice Maule agreed with the judges in respect to the answers returned to all the questions excepting the last; from this he entirely dissented. In his opinion, such questions might be at once put to medical men without deference to the facts proved; and he considered that this had been done, and the legality of the practice thereby confirmed on the trial of M'Naughten.—*Brit. and For. Med. Rev.*, July, 1843.

MISCELLANEA.

41. *Formulæ used in Guy's Hospital for reporting Cases.*—This is an important subject; for, to obtain reports fit for the purpose of generalization, formulæ are indispensably necessary. It is well remarked by the Editors,* that the history of a case is subordinate to the developing of its present and tangible features. Indeed, little dependence can be placed upon these histories; and when we consider the defects of memory, habits of inaccuracy, and even positive falsehood on the part of the patient, in connection with the possible bias, perhaps involuntary, on the part of the reporter, much uncertainty is thrown upon the results as regards a sound basis for either practical or theoretical conclusions. The following formulæ, however, are as elaborate and complete as can be expected; and we here present them under the belief that, among our readers, there are some who wish to report systematically:

"Their objects have been two-fold—the accuracy, and the number of the reports. And these objects they have essayed to accomplish, by facilitating the duties of reporting: 1st, By the division of labor: and 2dly, By the introduction of formulæ for case-taking. The labors of reporting are of course to be diminished by the number of cases under the charge of each reporter. The whole number of patients in the Hospital at one time is generally about 450—the number of clerks about 30; giving, as a result, about 15 patients as the average complement of each clerk; and, calculating that there are weekly from 55 to 65 admissions, the duration of each patient's residence in the hospital would be about seven weeks. Each clerk would therefore have to report rather more than two fresh cases every week—a number, considered as an average, and consisting of mixed cases, both mild and severe, simple and complicated; evidently in the power of any student, at the requisite period of his studies, to do ample justice to, without neglecting his other subjects.

"The subject of formulæ requires a more lengthy notice. The objects to be aimed at in their formation, are, facility of reporting with uniformity, and increased value of the reports. The first object has certainly been attained, even by the full formulæ now in use by the Society. Indeed many have been induced by them to commence a course of clinical study, the difficulties of which they confessed they should otherwise never have surmounted. So we may pass on to the second item; viz., uniformity and accuracy of the report. In the first place, if cases are to be compared—and such is confessedly one of the main objects of their accumulation—uniformity is almost essential; and in order to uniformity, formulæ are useful, if not positively necessary. These may be full or short, general or special. We believe the fuller they are, the greater is the amount of value accruing both to the reporter and the Society; although, as a point of direct consequence, it must be allowed that the errors would probably be more numerous than in shorter forms, though this only holds good as long as no stride is made beyond the defined limit. The next object contemplated is the fulness of the report, with the accuracy of its details; and for this purpose the formulæ must be full, containing a place for every possible item; and yet so arranged, that the reporter be not left in doubt under what head to note any particular symptom; and that space sufficient be allowed for each head. Special forms, although perhaps of great value in the reduction of matter from a large collected body of reports, imply—so at least it appears to us—a greater advancement in medicine than it has hitherto been our lot to enjoy; for how few diseases can be logically expressed—how widely diseases vary, both as to the number and intensity of the symptoms—and how little hope are we at present justified in entertaining that any law regarding the constancy of symptoms is about to be divulged—though we may perhaps expect some result from the consideration of their variations, and the endeavor to determine their value from their relations."

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* Guy's Hospital Reports, for April, 1843.

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"With respect to the construction of formulæ, the rule appears to be concentration of that portion of the report which is usually so indefinite; viz., whatever precedes the admission of the patient, or the first visit of the physician;—with the expansion of that portion of which the reporter can institute his own investigation; viz., the enumeration of the signs and symptoms, suggesting to the physician the name of the disease; which may be usefully considered as a condensed arbitrary expression for the sum of the symptoms.

"The formulæ we at present employ, were suggested by the short forms used by Dr. Conolly, at the Lunatic Asylum at Hanwell; and brought therefrom, in the course of the last summer, by the Honorary Secretary. They have of course been much modified; inasmuch as they are intended for diseases in general, whereas the others are specially designed for one class. They may be divided into several portions, as follows:—

"1. The relations of the patient with respect to the Hospital.

"2. The previous history of the patient.

"3. The causes of the disease, or the link between the previous history of the patient and the present history of the disease.

"4. The history of the present disease, with the date and the order of the succession of symptoms.

"5. The signs and symptoms of the disease, from the sum of which the diagnosis is to be determined.

"6. The history of the progress of the case with the treatment detailed.

"And these again are variously sub-divided, as may be observed by casting the eye over the plan given below.

No.	Name of Disease.	Result.
Ward	Physician	Date of Admission
No.	Reporter	
Name	Single or Married	No. of Children
Age	Occupation	

Previous History.
- Abode
- Habits of Life
- General Health
- Previous Diseases or Injuries

Causes or Influence.
- Hereditary
  - Health of Family
  - Causes of Death in Family
- Moral
- Physical

History of Origin, with Date of Present Illness, and Order of Succession of Symptoms.

Development
General Aspect.
- Natural
- Morbid

Position
Integuments and Appendages
Temperature
Moist or Dry
Color
Œdema
Pain or Tenderness
Ulceration or Abscess
Tumors or Eruptions
State of Appendages

Nervous System
Form of Head or Spine

Pain
Vertigo
Lesions of
- Intellect or Disposition
- Motion
- Sensation
- Special Sensation

Respiratory and Circulating System
  Form of Chest
  Pain
  Voice
  Respiration
  Cough
  Sputa
  Results of Percussion

Results of Auscultation
  Respiration

  Voice
Hearts' { Impulse
  Rhythm
  Sounds
Pulse and General Circulation

Digestive System
  Form of Abdomen
  Pain
  Appetite
  Nausea
  Vomiting
  Tongue
  Mouth and Throat
  Defæcation
  Dejections
  Results of Manipulation

Urino-Genital System
  Micturition
  Urine
  Generative Functions
  Lesions of Bones or Joints
  Treatment

Progress of Case

Treatment	Report

42. *Influence of Season on Sickness.*—Dr. Guy, of King's College Hospital, has published an interesting essay in the last number of the "Statistical Journal" on the influence of the season and weather on sickness and mortality. The conclusions deduced by the author from an examination of the mortality bills and registry kept at King's College Hospital and the Carey-street Dispensary are—

1. The amount of sickness in the central districts of London during the year 1842 varied directly as the temperature; being a maximum in August, the hottest month of the year, and a minimum in January, the coldest month.

2. The diseases which determined the order of sickness were febrile and catarrhal affections, the contagious exanthemata, and the disorders of the digestive organs, to which may be added the mixed group, consisting of gout, scrofula, etc.

3. The diseases of the organs of respiration followed the inverse order of those already mentioned, and were inversely as the temperature, being most numerous in the colder, and fewest in the hotter months.

4. The temperature did not appear to exercise a marked influence on the other classes of disease.

5. The hygrometric state of the air appeared to have little effect on disease, and if it produced any effect it was on the diseases of the organs of respiration, which were in excess during the months in which the quantity of moisture in the air was the greatest, but these were also the coldest months.

6. The mortality for the metropolis during the year 1842, was greatest in the first quarter and least in the second, and was inversely as the sickness, except that the mortality of the third quarter exceeded that of the fourth.

7. The diseases which chiefly influenced the order of the quarters in respect of mortality were those of the chest, to which may be added, as following the same order, the decay of nature in the aged.

8. The order of the seasons in respect of sickness and mortality differs year by year, and does not admit of being reduced to any precise rule.

9. As a general rule, but one admitting of many exceptions, it may be stated

that the amount of sickness tends to vary directly, and the amount of mortality inversely as the temperature.—*Prov. Med. Journal.*

43. *Fork-grinders.*—In an elaborate work on the vital statistics of the town of Sheffield, more especially as regards the influence of the several branches of manufactures, we find the following interesting extract in the Med. Chirg. Rev., for Oct. last:

"This occupation is perhaps more destructive to human life than any pursuit in the United Empire; it exceeds, however, only in a few degrees many other branches of grinding. Fork-grinding is always performed on a dry stone, and in this consists the peculiarly destructive character of the branch. In the room in which it is carried on there are generally from eight to ten persons at work, and the dust which is created, composed of the fine particles of stone and metal, rises in clouds and pervades the atmosphere to which they are confined.

"The dust which is thus every moment inhaled, gradually undermines the vigor of the constitution, and produces permanent disease of the lungs, accompanied by difficulty of breathing, cough, and a wasting of the animal frame, often at the early age of twenty-five. Such is the destructive tendency of the occupation, that grinders in other departments frequently refuse to work in the same room, and many sick clubs have an especial rule against the admission of dry grinders generally, as they would draw largely on the funds from frequent and long-continued sickness.

"The mortality is tremendous. Of 61 persons, engaged in this occupation, 35 died under 30 years of age; 47 under 36 years. Only one attained the age of 48, and he had been fifteen years in the army before entering into this trade.

"To form a proper idea of this mortality, it is necessary to compare it with the ratio of deaths at different periods in other classes.

"Thus in 1,000 deaths of persons above 20 years of age, the proportion between 20 and 29 years, in England and Wales, is annually 160; in Sheffield, 184; but among the fork-grinders, the proportion is the appalling number, 475; so that between these two periods, three in this trade die to one in the kingdom generally.

"Between the ages of 30 and 39, a still greater disparity presents itself. In the kingdom, 136 only in the 1,000 die annually between these two periods. In Sheffield, 164; but in the fork-grinding branch, 410; so that between 20 and 40 years of age, in this trade, 885 perish out of the 1,000; while in the kingdom at large, only 296. Another step in the analysis, and we perceive that between 40 and 49, in the kingdom, 126 die: in this town, 155; and in this branch, 115, which completes the 1,000. They are all killed off. For in carrying forward the inquiry we observe that between 50 and 59, in the kingdom, 127 die; and in Sheffield, 155: but among the fork-grinders, there is not a single individual left. After this period of life, there are remaining in the kingdom, of the 1,000, 441; and in the town, 339; but none in this branch of manufacture.

"In 1841, ninety-seven adult workmen were employed in this trade. Of these ninety-seven, about thirty are at this moment suffering, in various degrees, from the disease peculiar to this occupation, viz., grinder's asthma.

"The disease is seated in the lungs and the air-passages, and the progress of it is accompanied with the gradual disorganization of these important organs. In its advanced stages, it admits neither of cure nor of any material alleviation. In the early stages, the only efficient remedy is the withdrawal from the influence of the exciting cause; but how is this to be effected by men who depend from day to day upon their labor, and whose industry from early life has been confined to one particular branch? Here, then, is the melancholy truth, that nearly one-third of this class of artisans, in addition to the poverty and wretchedness common to the whole, is in a state of actual disease—and disease which no art can cure. Fiction can add no color or touches to a picture like this. Truth transcends the gaudy embellishments of imagination. The distempered fancy has here no room to exercise her powers."

44. *Influence of Climate on Pulmonary Phthisis.—Academy of Science.*—M. Cassimir Broussais read a memoir entitled, "*Note on the Frequency of Pulmonary Phthisis in Different Climates.*" Some years since the Academy addressed to its corresponding members in every country a series of questions relative to the frequency of phthisis, and the proportion of mortality caused by that disease in different climates, but this step failed to elicit the information required, and M. Broussais now endeavors to supply this want. The memoir is based on the documents furnished to the army board of health by the military surgeons from every part of France, and from Algiers. Before investigating the results deduced from those returns, M. Broussais gave a rapid sketch of our previous knowledge on the subject, especially with respect to India, the Antilles, Africa, and Italy.

In Algiers, 62 cases of phthisis occurred among 40,341 patients, or 1 in 650, and but 1 death from phthisis occurred in 102 deaths from all causes; but the average of deaths in the French army from phthisis is 1 in 5.

The difference here shown is so great, and is deduced from such a large number of cases, that it merits the most serious consideration. If the proportions continue the same in future investigations, the favorable influence of the climate of Algiers, on Europeans predisposed to phthisis, will be unquestionably established. M. Broussais admits that serious objections may be made to these results. The troops sent to Algiers may be selected for their health and vigor, and the mortality from phthisis may be replaced by mortality from some other cause, which prematurely carries off the individuals who, had they survived, would have fallen victims to phthisis. M. Broussais terminated his memoir with the following conclusions:

1. No trustworthy documents show that phthisis is common in India.
2. The result of twenty years' observation in the British Antilles establishes that the mortality among the British in those islands from phthisis is generally low, and four times less among the whites than among the negroes.
3. Phthisis appears to be of rather unfrequent occurrence in Martinique, Senegal, Cayenne, and Italy, so far as the imperfect documents respecting these countries admit of any conclusion being deduced respecting them.
4. Phthisis appears to be greatly less frequent in Algiers than in France.—*Dub. Med. Press, June*, 1843.

45.—*French Gratitude to Medical Men.*—We observe by one of the Paris journals, that the names of *Percy*, *Desgenettes*, and *Larrey*, have been recently engraved on the famous Arc de Triomphe, at the Barrière de l'Etoile.

In some respects certainly, medical men occupy a higher position in society in France than in this country. For example, who ever heard of a doctor becoming a *Baron*, or peer of the realm with us? and yet every one knows that *Portal*, *Dupuytren*, and *Cuvier*, occupied that dignified rank in the parliament of France; and where is the nobleman of Germany that might not be proud to be associated with a Baron *Humboldt?* True, the circumstance of a French peerage being merely personal, and not hereditary, makes a very material difference in the case; but then, why should there not be a certain number at least—we are no friends to an elective aristocracy, as a general question—of the most eminent men in the various departments of science being admitted to the highest honors of the state, without necessarily entailing upon their families the expensive title which they bore themselves?

By a recent Royal Ordonnance, M. *Louis* has been made an officer of the Legion of Honor, and M. *Leuret* a chevalier of the same Order.

Again, MM. *Andral* and *Rayer*—certainly two of the most distinguished names in French medicine of the present age—have been elected members of the Institute. "The selection of such men," says one of the Paris journals, "shows very emphatically that this illustrious body looks as much to the scientific character as to the practical eminence of its candidates; in a word, that it wants not so much the mere skilful physician as the enlightened philosopher in its ranks."—*Medico-Chirurgical Review for July*, 1843.

46.—*Poverty of Medical Men: how to eke out a livelihood.*—"One of the most certain signs (says a writer in the French Medical Gazette) of the 'decadence' of a profession, is the necessity which many of its members experience to seek for supplementary resources. Medicine is a most noble profession, but in the present day it is certainly one of the worst trades (industries) going. It is all very well to talk of dignity and high feelings; let it be remembered that a doctor has a stomach as well as a heart to attend to. In Paris alone, there are not fewer than 2,000 medical men, and it may be readily supposed that a great number of them scarcely ever get a fee. How, then, are they to live until practice comes?—by turning their talents, whatever these may be, to the best account. The other day I called on a confrère, whose circumstances I knew to be in not a very flourishing condition: I found him busily engaged in painting a portrait; he said that he had sold several of late. But what is your object? said I—'renforcer le metier,' was his answer. If a patient called, he put down his palette, doffed his blouse, slipped on his black coat, and with a grave and becomingly professional countenance, went to his consultation-room; no sooner was the interview over, than he returned to his studio, resumed his working dress, and set to his painting again with all the cheerfulness of a brave heart. 'I could not help saying, Apollo is god of the arts as well as of medicine.'

"Several young medical men have exerted themselves with success in the way of 'inventions industrielles;' for example, in the manufacture of portable liquid gas, in the construction of a night-telegraph, in preserving timber for ship-building, &c.

"The lamp C———, we owe to the ingenuity of an intelligent physician, who is practising in the suburbs, and who thus diffuses both light and health around him

"Not a few imitate the example of *Boerhaave*, *Pinel*, and others, and give instructions in languages, mathematics, &c., translating, perhaps, Virgil and Horace in the morning to one set of pupils, and Hippocrates and Celsus in the evening to another. Often the wife, too, lends a helping hand 'à renforcer le metier,' either in the way of teaching, letting lodgings, or perhaps keeping a little magazine of linen, or silk goods, &c.—whatever, in short, brings grist to the mill!"—*Ibid.*

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47. *Comparative Anatomy of the Skin in the different Varieties of the Human Race.*—At the sitting of the *Académie des Sciences* of the 21st August, M. Flourens communicated the results of some of his recent researches upon this interesting question, the subjects of his present investigation being the skins of the Arabs, Moors, Kabyles, and Negroes. As regards the skin of the white man, he had previously established the fact that it is composed of three laminæ or distinct membranes, viz., the dermis and two epiderms, and that there is no appearance of coloring matter between any of these tissues.

In the Arab, Moor, and Kabyle, the color of the skin is a bistre; but this color generally grows lighter in the order in which they here stand. The structure of these skins, however, is the same. Each has a dermis and two epiderms, while between the internal epiderm and derm, contrary to the structure of the white-skinned races, there are found a layer of coloring matter and a pigmental membrane. The same structure of skin is presented by the Negro and the Mulatto, the pigmental membrane and layer of coloring matter being, of course, developed in proportion to the darkness of the complexion.

But the skin of the white man, he shows to be no exception to the law here developed; for it also possesses its apparatus of color, which, though very imperfect, yet is well marked. The skin of the white man at certain points, which are always of a darker shade than the rest of his body, presents all the structure of the skin of the colored varieties of the human race.

This fact, then, affords an additional argument in favor of the original unity of the human race—a doctrine already established on the most incontrovertible basis.

48. *Inauguration of the Statue of* Bichat.—This ceremony was recently performed in Bourg, the capital of the department of Ain, which was the native town of Bichat. The statue, which is executed in bronze by M. David, of Angers, represents Bichat fixing his gaze on a living infant, while a dead body, partially dissected, lies at his feet; the whole being emblematical of this great physiologist's researches on life and death. To give *éclat* to the event, the aid of processions, music, odes, and orations, was invoked, while the discharging of artillery signalized the first unveiling of the monument to public view. Speeches were successively delivered by the Prefect of the department, the Mayor of Bourg, the Secretary of the French Academy of Medicine, MM. Bonnet, Royer-Collard, Hippolyte Larrey, Brachet, Martin of Lyons, etc.; and these eulogiums have been published at length in the *Gazette des Hôpitaux.* We further observe, that the members of the various medical societies in Paris are desirous of removing the mortal remains of the illustrious Bichat, at the public expense, from the obscure cemetery of Clancourt to Père la Chaise.

49. *Anatomical Models.—Academy of Science, July* 3.—Dr. Auzoux, whose anatomical models for the use of Medical students in particular, and for the information of all who take an interest in knowing the functions and uses of every part of the human body, have deservedly attracted so much notice, presented to the Academy some new models in comparative anatomy of extraordinary perfection. Among them is the model of a cockchafer, which, although only twelve times larger than nature, consists of six hundred parts, each marked with its number, and so contrived as to be connected or separated with great facility.

50. *Professional Honors.*—Dr. Achille Comte, as appears from the *Gazette Medicale de Paris*, has received a gold medal and an autograph letter from the King of Prussia, thanking him for a copy of his beautiful work on Natural History, entitled "le Règne Animal."

51. *Genius linked to Poverty.*—Chervin, whose decease was announced to the French Academy on the 22d of August last, died very poor. The opening passage of his will reads thus: "I have nothing to leave behind me. All that I have inherited or gained by a good practice in Gaudaloupe, has been spent in investigations pursued during a period of twenty-seven years, on the origin and propagation of yellow fever, in order to improve the sanitary regulations with respect to this disease." Sir Charles Bell also recently died in a state of poverty. Fortunately, however, as merit is not always without its reward, his widow has been placed on the pension list by Sir Robert Peel, to the amount of £100. These illustrious instances, especially that of Chervin, afford additional proof that philanthropy tends to benefit all the world before its possessor.

2.

American Medical Intelligence.

Dr. Jarvis's "Surgical Adjuster."—This apparatus, which was noticed in the first Number of the Journal, has since then undergone further improvement. Its object, as we then stated, is to reduce all dislocations, to adjust fractures, and to maintain the coaptation of the latter. In a word, it finds a proper application in all cases in which the principle of extension and counter-extension comes in play. As regards its value as a contribution to surgery, Dr. J. has all the evidence that he could possibly desire, in the names of Professors Mott, Parker, and Mütter, Surgeon General Lawson of the Army, Surgeon Ruschenberger, of the Navy, *cum multis aliis*. Indeed, all by whom this instrument has been examined, concur in the opinion, that it fully supplies a highly important desideratum in surgery, and that it will speedily supersede the employment of pulleys, straps, etc., altogether. The surgeon, by means of this instrument, performs his own extension and counter-extension, thus uniting in himself a power capable of tearing a limb from the body; and, at the same time, this power is completely under his own control, nor is he in the least restrained in calling to his aid the manipulations necessary to effect a reduction.

Copious "directions," embracing ten octavo pages, accompany this instrument, in which its multiplied uses are fully detailed; but, in the absence of diagrams, or the apparatus itself, any further description would be scarcely intelligible to the reader.

It is for sale at the drug-store of John Meakim, 511 Broadway.

Monstrosity.—A most extraordinary vice of conformation has been recently exhibited in a subject brought to Dr. Darling's dissecting-rooms. There is a complete transposition of the thoracic and abdominal organs. The heart is on the right side, while the left lung has three lobes, and the right but two. The liver is on the left side, and the spleen and the sigmoid flexure of the colon on the right. The child was born hydrocephalic, with a complicate hare-lip, and a club-hand and foot. We purpose, in our next Number, to present our readers with a drawing of this curious freak of nature.

Stewart's *Lectures on the Diseases of the Genito-Urinary Organs.*—Dr. F. Campbell Stewart, who has given much attention to this subject, proposes to deliver a course of lectures on this class of diseases during the present winter. Having recently returned from Paris, where he spent four years, during two of which he was the private assistant of the celebrated Civiale, his instructions upon these affections will, doubtless, prove highly interesting and valuable.

Velpeau's New Elements of Operative Surgery.—The first volume of this work, which is to appear in February next, from the press of the Langleys, certainly promises to take the lead among all the treatises in this department of medicine. This translation by Dr. P. S. Townsend, is from the Paris edition of 1839; but it also comprises the latest improvements and discoveries in Surgery up to the present time, furnished by Professor Valentine Mott and by Velpeau himself. The work will consist of three volumes, of which the one now in press will be illustrated with two hundred wood-cuts. Velpeau has furnished for this volume from three to five hundred MS. pages of *new* matter. This, in connection with Professor Mott's additions, must surely give to this volume an unrivalled reputation.

Phreno-Mesmerism, or Neurology.—A letter from a distinguished professor in a Medical College in Kentucky, addressed to a friend in this city, says :

"I have had a letter from Combe, and another from Von Struve, of Manheim, Germany, both of whom are converts to phreno-mesmerism, the cause of which is rapidly advancing, both in Great Britain and continental Europe."—*New York Evening Post.*

Medical Schools and Students.—As nearly as we can ascertain, there are five hundred students now attending medical lectures in this city, both schools having an increase upon the number of last session.

At Philadelphia, we learn that they have fully their usual quota.

At Louisville, the estimated number is two hundred and fifty.

At Bowdoin College, the lectures in the medical department begin on the 19th of February, and continue three months. The faculty consists of four professors, viz., Drs. Cleveland, Sweetser, Wells, and Peaslee. There are attached to the school a fine medical library and anatomical cabinet.

METEOROLOGICAL OBSERVATIONS.

In accordance with the promise made in our last Number, we now present our readers with the observations of a meteorological observatory, on an extended scale, on Governor's Island, in the harbor of New York. The Medical Society of this city having resolved to institute a similar observatory, it was finally concluded, in view of the great labor connected with such an enterprise, first to make an effort to obtain for this Journal the observations taken in the harbor under the direction of the Medical Bureau of the Army, inasmuch as all the ends aimed at would be thus attained. This request was promptly acceded to by the Surgeon General of the army, notwithstanding it anticipates, in some degree, his regular reports. These observations include the barometer, the thermometer attached and the thermometer detached, the pluviometer, Daniell's hygrometer, the wet bulb, and observations upon the clouds, the clearness of the sky, and the force and direction of the winds. The tables now given comprise four months; and hereafter, each number will contain the intervening two months.

As the meteorological phenomena of every region or locality are modified by its physical features, it follows that a topographical description becomes an indispensable preliminary step in the investigation of its climatic laws. Accordingly, it may be stated that Fort Columbus, on Governor's Island, in the harbor of New York, is in lat. 40° 42′ and long. 74° 2′. This island, situated near the confluence of the Hudson and that arm of Long Island Sound called the East River, is distant from the main, at the nearest point, about half a mile, and from the ocean at Sandy Hook about twenty miles. It is about a mile in circumference, and is very slightly elevated, with a soil composed of sand, intermixed with fine gravel and loam, based upon ferruginous clay. The portion brought under cultivation yields in abundance the usual esculent vegetables of the climate. There are no swamps or marshes in the vicinity; and in consequence of the regular artificial slope in every direction from the fort to the water, the drainage is perfect.

The following paper, by Thomas G. Mower, M D., Surgeon, United States Army, read at the Centennial Anniversary of the American Philosophical Society, and part of which has appeared in their published "Transactions," will serve to show the present condition of meteorology in our own country:

"This paper, communicated on behalf of the Medical Department of the Army, will present a narrative of the operations of the Bureau in collecting meteorological data; and its further object will be to enlist the co-operation of the lovers of science throughout our country.

"No field of investigation is more inviting to the cultivated and inquiring mind than meteorology, whether we regard the importance, the variety, or the beauty of its objects. The phenomena of the atmosphere attract not only the intellect of the philosopher, but the taste of the painter and the imagination of the poet; and even to the untutored mind, no objects in nature are more pleasing than the arch of the rainbow, the coruscations of the aurora, or the clouds that variegate the summer's sky. To the followers of various avocations, especially to the navigator and husbandman, meteorological pursuits assume an aspect of practical importance; and, in like manner, it was from observing the powerful influence of atmospheric agents in medicine that the Department was led to the investigation of this science. The medical relations of meteorology have been observed by physicians in all ages. It was in order to elucidate and to define these relations, especially as they appear in the medical practice of the Army, that a system of inquiries was instituted, at all our military posts, embracing investigations in regard not only to the number and variety of diseases, their nature, and mode of treatment, but also to the morbific and remedial influences of climate, including the various modifications arising from local position and other physical agents. Meteorology was thus made the object of observation, less as an independent pursuit than as it is subservient to a superior design—the advancement of medical science. It is intended, however, that the labors of the Department should be so conducted as to be available also for the purposes of science in general.

"The duties required of an Army Surgeon are so numerous, that only a small portion of his time and attention can be devoted to collateral branches of science. Hence, in meteorology, all that can with propriety be expected of him is, that he be a diligent collector of facts. As in war, an army is the protector of science, so in peace it may become a useful adjuvant. Both here and in Europe, the military organization has been used as a channel of scientific inquiry—a channel, in consequence of the harmony and extent of its operations, of no small value.

"The advantages of *system* and *co-operation* in meteorology are peculiarly great; and the Royal Society of London, in their meteorological directions, say truly, 'that systematic co-operation is the essential point to which at present everything else should be sacrificed; and co-operation on almost any plan would most certainly be followed by more beneficial results than any number of independent observations, however perfect they might be in themselves.' Were the cultivators of meteorology throughout the United States, in connection with State institutions, to unite in a uniform plan of operations, more progress may be expected, within a short period, toward the perfection of the science, than has yet been accomplished by their isolated efforts.

"Previous to the year 1818, we possess no records of meteorological observations, taken in the United States, on an extensive scale. During that year, the surgeons at the military posts were directed to keep regular records of the weather, and transmit them quarterly to the Medical Bureau at Washington. The earliest registers thus transmitted, and on file in the Surgeon General's office, are dated January, 1819.

"The institution of meteorological observations and the organization of the Medical Department, were nearly cotemporaneous. By an act of Congress, passed April, 1818, upon the enlightened and liberal recommendation of the Hon. John C. Calhoun, then Secretary of War, a Surgeon General was appointed, who was charged with the administrative details of the medical staff. Inquiries into meteorology were begun the same year; and thus did the Department, at its very origin, enter on a course of investigation, in which it has since been followed by the States of New York, Pennsylvania, and Ohio. New York commenced in 1825, Pennsylvania in 1836, and Ohio during the last year, 1842.

"The merit of introducing meteorological observations into the army is due to the late Surgeon General, Doctor Joseph Lovell. Soon after his appointment, he submitted to the Secretary of War for approval, a system of regulations for the government of the Department. Therein, among other duties, the surgeon is required 'to keep a diary of the weather,' and 'to note everything relating to the local situation of his hospital, the climate, diseases prevalent in the vicinity, etc., that may be calculated to produce or vary the forms of disease.' 'Every physician,' Dr. Lovell remarks, 'who makes a science of his profession, or aims at eminence in it, will keep a journal of this nature, as the influence of weather and climate upon diseases, especially epidemic, is perfectly well known. From the circumstances of the soldier, their effects upon diseases of the army are peculiarly interesting, as, by proper management, they may in a great measure be obviated. To this end, every surgeon should be furnished with a good thermometer, and in addition to a diary of the weather, should note everything relative to the topography of his station, the climate, complaints prevalent in the vicinity, etc., etc., that may tend to discover the causes of disease, to the promotion of health and the improvement of medical science.'

"The only instruments used at the first were a thermometer and vane, and the observations were confined to the temperature of the air and the course of the winds, with general notices of the weather. The thermometer was noted at 7 A.M., 2 P.M., and 9 P.M. (the hours now used by the Franklin Institute), and the winds and weather were observed morning, noon, and evening. Early in the year 1836, a rain gauge was furnished to each post, and the daily fall of rain added to the register. These observations have been continued without material change, for a period of twenty-four years, to the commencement of the present year, and without interruption, except such as has arisen from our military operations against the Indians, and more especially from the late war in Florida.

"The results of the observations for 1820 and 1821 were published at the end of each year. In 1840, an 'Army Meteorological Register' was published, embracing the years from 1822 to 1830 inclusive. It is the purpose of the department shortly to give to the public the entire observations up to the present period.

"The principal object of observation has been the temperature of the atmosphere; and while it is to be regretted that the objects were so few, still, as temperature is a prominent property of the air, and, perhaps, the most influential element in the formation of climate, it is hoped that the investigations on this point are not without value.

"As points of observation, our military posts possess peculiar advantages. They extend from the 25th to the 46th degree of latitude, and from the 67th to the 96th degree of longitude—an immense region, embracing the whole inhabited area of the United States. A large proportion of them stand at intervals, along two nearly parallel lines running from south to north, and forming our eastern and western frontier, extending on the Atlantic from Key West, near the Bahamas, to Passamaquoddy Bay, and on the west, from the Balize to the Falls of St. Anthony. From this disposition of our posts, it happens that almost every parallel of latitude intersecting our country passes through a military station; and, as the mean annual temperature of these posts has been determined by a series of observations extending from ten to twenty years, we have been enabled to draw isothermal lines, coinciding, at one or more points, with almost every parallel of latitude between Cape Sable and the St. Lawrence. The distribution of temperature among the seasons and the different months of the year, by which so important an influence upon vegetable geography is exerted, has also been very generally determined.

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"The limits of this paper will not permit of a detailed statement of the many interesting facts which may be deduced from the records of the Department. A general view of the climatic features of our country has lately been presented to the public in a work entitled 'The Climate of the United States, and its Endemic Influences,' written by Samuel Forry, M.D., of New York, formerly of the army, who was then employed, under the direction of the Surgeon General, to collate and condense for publication, the meteorological matter collected in the Medical Bureau. This work, based on the 'Army Meteorological Register,' and 'Medical Statistics,' has attracted the favorable notice of distinguished men at home and abroad.

"Within the last few years, the attention of the Department has been awakened afresh to the subject of meteorology. Under the direction of the present Surgeon General, Dr. Thomas Lawson, the observations have been greatly extended, and the various stations have been supplied with the requisite instruments. In May, 1842, the Army Medical Board, then in session at Philadelphia, was instructed by the head of the Department, to prepare practical directions for taking meteorological observations in an extended form. The Board, consisting of Surgeons Mower and Stinnecke, and Assistant Surgeon Cuyler, diligently sought information from all authentic sources within their reach, and at length drew up a set of directions, which were submitted for the approval of the Surgeon General and Secretary of War, and finally adopted for the government of the medical officers, in their meteorological observations. In preparing these directions, the Board received valuable aid from Professor A. D. Bache, Professor Bartlett of the U. S. Military Academy, J. P. Espy, Esq., and from the instructions of the Regents of the University of New York, of the Franklin Institute at Philadelphia, and of the Royal Society, London.

"The new form went into operation on the first day of January, 1843. The Department, in selecting objects for observation, have endeavored to render their registers as uniform as may be with the journals of the various scientific institutions in this country now engaged in similar pursuits. The preparation of a perfect system has not been attempted, because in the present state of meteorological science, such an attempt would certainly fail of success. Every system, in the mean time, must be considered as merely experimental. But it is believed that the plan now introduced into the army, will, in the end, furnish the means for its own correction and improvement.

"Observations are now taken on the thermometer, barometer, attached thermometer, wind, clouds, clearness of the sky, and wet bulb. These observations are recorded at four different periods during the day, except on the wet bulb which is taken only twice. The time when rain began and ended, and the quantity which fell, are noted at the close of every shower. In addition, the medical officers are requested to note, under the head of 'remarks,' all remarkable phenomena, especially sudden and simultaneous changes of wind and temperature; their effect on the barometer; the moment of greatest depression of the barometer in the passage of storms; the time of clouding; currents of clouds moving in different directions, and at different heights; the rise and fall of rivers and lakes; remarkable tides; the opening and closing of navigable waters; the last killing frost that occurs in spring and the first in autumn, as shown by their effects on the tender buds, leaves, and germs of fruit trees, etc.; the commencement and progress of vegetation; the first appearance and departure of birds of passage; thunder storms, near or remote; silent lightning with its direction, and elevation above the horizon; falls of hail, snow, and sleet; fogs; white or hoar frosts, etc.; also, to examine the heavens at the latest hour of observation, whether there be any aurora or shooting-stars; and especially about the 10th of August, and 12th and 13th of November, to see whether there be any great number of luminous meteors visible, stating the number observed in an hour, or at least in a quarter of an hour; and further, in cases of great fires, occurring in clear, calm, dry weather, with a high dew point, to observe whether clouds form over the fire, and to describe the phenomena.

" At the equinoxes and solstices, hourly observations of the barometer are directed to be taken for twenty-four hours, to correspond with those already instituted at numerous points of Europe and America, at the suggestion of Sir John Herschel. The days fixed upon for these observations are, the 21st of March, June, September, and December. But should any one of these twenty-first days fall on Sunday, then the observations will be deferred till the twenty-second. The observations at each station will commence at six o'clock, A. M., and be continued at the beginning of each hour till six o'clock A. M., of the following day, care being taken to obtain the correct time.

" A thermometer on a new pattern, finely adapted for observing the wet-bulb temperature, has been contrived for the Department by Geo. Tagliabue, philosophical instrument maker, New York. The barometer employed is Bunten's Syphon, imported from Paris, on the recommendation of Capt. Talcott, U. S. Commissioner for surveying the North Eastern Boundary. Its advantages are sensitiveness, accuracy, portableness, and cheapness. A number of Daniell's Hygrometers were received from London. They are beautiful instruments, compact, simple, and portable. But the principle upon which they are constructed answers better for the humid climate of England than the arid atmosphere of the United States. The experience of Prof. A. D. Bache, and experiments made at several posts, induced the Department to prefer the wet-bulb thermometer in determining the hygrometric condition of the air. The conical rain gauge, originally introduced into the academies under the direction of the Regents of the University of New York, by Simeon De Witt, Chancellor of the University, has been adopted. A full description of this instrument, and the principle upon which it is constructed, will be found in Silliman's Journal for June, 1832.

" The periods recommended for meteorological hours by the Royal Society, London, are 3 and 9 A.M., and 3 and 9 P.M. These periods the Department has adopted, with the substitution of sunrise for 3 A.M., as being more seasonable, and better suited to the routine of military service. The maxima and minima of the barometric oscillations, at the level of the sea, probably occur at these hours over a large portion of the globe. Besides, the lowest degrees of temperature and dewpoint are obtained, as experience has shown, shortly before the dawning of day, and the highest degrees nearly at 3 P.M. The pair of hours, 9 A.M. and 9 P.M., coincide nearly not only with the maxima of atmospheric pressure, but with the periods of mean morning and evening temperature, and half the sum of these two observations will be a near equivalent for the mean daily temperature, as is shown by Capt. Mordecai, of the corps of Engineers, in his observations at Frankford Arsenal, near Philadelphia.

" Observations are now made at sixty military stations, which, with few exceptions, are situated either on our maritime or inland frontier. The following list will give their distribution through the different States and Territories. Five are in Maine, one in each of the States of New Hampshire, Massachusetts, Rhode Island, and Connecticut, nine in New York, four in Pennsylvania, two in Maryland, one in Virginia, two in North Carolina, one in South Carolina, two in Georgia, four in Florida, two in Alabama, five in Louisiana, three in Arkansas, one in Arkansas territory, three in Missouri, one in Missouri territory, four in Iowa, two in Wiskonsin, and five in Michigan.

" Barometers have been furnished to twenty-five of these posts, or wherever there was a prospect that the post would be permanently occupied; nine are placed on the Atlantic, including the extreme northern and southern points, three on the Gulf of Mexico, and six on the Western frontier. On the great lakes, which exert so marked an influence on the climate of the adjacent regions, the barometrical sites are Sacket's Harbor, at their eastern extremity; Buffalo, between Erie and Ontario; Detroit, nearly at their most southerly stretch; and Fort Brady, further north, at the outlet of lake Superior. Plattsburgh, on lake Champlain, is also supplied.

"But while, from the position of our posts, the points of observation are thus extended along the frontier, the *interior* of our land is left comparatively destitute. On the Atlantic slope, only two barometers are placed at any considerable distance from the ocean, viz., at Carlisle barracks, Pennsylvania, and Augusta Arsenal, Georgia; and there is not a single point of observation in the large tract of territory embracing the States of Ohio, Indiana, Illinois, Kentucky, Tennessee, and Mississippi.

"The Department would, therefore, cordially invite the co-operation of colleges, scientific institutions, and individual admirers of meteorology, in these sections of our country. The directions and forms used in the Army, may at any time be obtained, by application, addressed to the Surgeon General, U. S. Army, Washington. All contributions from other sources will be cheerfully acknowledged in the publications of the Department. Under the direction of the Surgeon General, arrangements have been made for prosecuting meteorological inquiries with renewed diligence; and a medical officer will shortly be detailed to give his chief time and attention to the subject, to arrange and digest the matter collected, and to prepare the results for publication.

"*May* 23, 1843."

To render the following meteorological tables completely intelligible, some further explanation may not be amiss. The barometer employed is Bunten's syphon, the scale of which has of course the French division of *centimetres*. The table on the next page will, however, enable any one to reduce the French barometer scale to the English:

In the "*thermometer attached*," the centigrade scale is used, in which the point of melting ice is 0, and that of boiling water is 100°. In reference to the scale of Fahrenheit, degrees may be converted from one to the other by the following formula: To reduce a degree of centigrade to that of Fahrenheit, multiply by 9-5ths, and then add 32, and *vice versâ*.

The third division is the "*thermometer detached*," which is according to Fahrenheit's scale.

The degree of "*clearness of the sky*" is designated by the figures 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. The first (0) signifies no clear sky; and so on to 10, by which entire clearness is indicated.

Under the head of "*wind*," both its direction and estimated force are registered. The letters denoting the points of the compass are of course understood as indicating the *direction* of the wind, while its *force* is expressed by figures, from 0 to 10; thus 0 signifies a calm; 1, a barely perceptible breeze; 2, a gentle breeze; 3, a moderate breeze; 4, a brisk breeze; 5, a strong wind; 6, a very strong wind; 7, a storm; 8, a great storm; 9, a hurricane; and 10, a violent hurricane.

Under the head of "*clouds*," the same expressions are used as in registering the wind; and it is only the direction and velocity of the lowest stratum, when several strata or currents of clouds exist at different altitudes, that are noted.

The temperature indicated by the "*wet bulb*," is according to the scale of Fahrenheit.

The amount of rain which falls is measured by the conical rain-gauge, which expresses the quantity in inches and decimals.

The dew-point indicated by Daniell's hygrometer, is expressed according to Fahrenheit's scale.

Hereafter, we may, from time to time, lay before our readers some of the general laws of meteorology, developed throughout the United States by this extended system of observation.

1 *French mètre* = 39,371 *English inches.*

Centimetres.	English Inches.	Centimetres.	English Inches	Centimetres.	English Inches.	Centimetres.	English Inches.	Centimetres.	English Inches.	Centimetres.	English Inches.
68·60	27·01	70·80	27·87	73·00	28·74	75·10	29·57	77·20	30·39	79·30	31·22
68·70	27·04	70·90	27·91	73·10	28·78	75·20	29·61	77·30	30·43	79·40	31·26
68·80	27·08	71·00	27·95	73·20	28·82	75·30	29·65	77·40	30·47	79·50	31·30
68·90	27·12	71·10	27·99	73·30	28·86	75·40	29·69	77·50	30·51	79·60	31·34
69·00	27·16	71·20	28·03	73·40	28·90	75·50	29·73	77.60	30·55	79·70	31·38
69·10	27·20	71·30	28·07	73·50	28·94	75·60	29·77	77·70	30·59	79·80	31·42
69·20	27·24	71·40	28·11	73·60	28·98	75·70	29·81	77·80	30·63	79·90	31·46
69·30	27·28	71·50	28·15	73·70	29·02	75·80	29·85	77·90	30·67	80·00	31·50
69·40	27·32	71·60	28·19	73·80	29·06	75·90	29·89	78·00	30·71	80·10	31·54
69·50	27·36	71·70	28·23	73·90	29·10	76·00	29·92	78·10	30·75	80·20	31·58
69·60	27·40	71·80	28·27	74·00	29·13	76·10	29·96	78·20	30·79	80·30	31·62
69·70	27·44	71·90	28·31	74·10	29·17	76·20	30·00	78·30	30·83	80·40	31·65
69·80	27·48	72·00	28·35	74·20	29·21	76·30	30·04	78·40	30·87	80·50	31·69
69·90	27·52	72·10	28·38	74·30	29·25	76·40	30·08	78·50	30·91	80·60	31·73
70·00	27·56	72·20	28·42	74·40	29·29	76·50	30·12	78·60	30·95	80·70	31·77
70·10	27·60	72·30	28·46	74·50	29·33	76·60	30·16	78·70	30·98	80·80	31·81
70·20	27·64	72·40	28·50	74·60	29·37	76·70	30·20	78·80	31·02	80·90	31·85
70·30	27·68	72·50	28·54	74·70	29·41	76·80	30·24	78·90	31·06	81·00	31·89
70·40	27·72	72·60	28·58	74·80	29·45	76·90	30·28	79·00	31·10	81·10	31·93
70·50	27·76	72·70	28·62	74·90	29·49	77·00	30·31	79·10	31·14	81·20	31·97
70·60	27·80	72·80	28·66	75·00	29·53	77·10	30·35	79·20	31·18	81·30	32·01
70·70	27·84	72·90	28·70								

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude 40° 42′ North. Longitude 74° 9′ West Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1843.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			DANIELL'S HYGROMETER.		REMARKS.
August.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 A. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer	
	Centimetres.	Centimetres.	Centimetres.	Centimetres.	Centigrade.	Centigrade.	Centigrade.	Centigrade.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	76·30	76·30	76·40	76·25	19	21°	26°	20°	66°	70°	82°	70°	74°	4	6	3	8	NE 1	N 1	NE 0	NE 1	NE 5	NE 4	0	0	62°	72°				67°	75°	
2	76·40	76·43	76·60	76·50	17	21	27	18	64	70	81	70	72·5	0	6	10	10	NW 0	NE 0	NE 0	NW 0	0	NE 4	0	0	63	75				64	76	
3	76·65	[illegible]	76·70	76·80	20	23	26	19	68	74	80	70	74	0	8	10	10	NE 0	NE 0	NE 0	NE 0	0	NE 2	0	0	65	72				63	74	
4	77·12	77·25	77·25	77·20	14	22·5	27	22	65	72	82	75	73·5	6	9	10	10	NE 0	NE 0	SE 0	SE 0	NE 2	NE 2	0	0	61	76				65	76	
5	77·15	77·15	77·00	77·00	20	23	25	24	70	74	74	72	72	0	4	0	0	NE 1	NE 1	NE 1	NW 6	0	NE 2	NE 4	0	66	70	7 P.M.			66	78	
6	76·95	76·80	76·80	76·80	18	21	22	20	66	68	70	68	68	5	0	0	0	NW 3	NW 1	NW 1	SE 1	NW 4	0	0	0	65	73		5 A. M.	2·00	65	75	
7	76·95	76·90	76·90	76·80	17	21	24	19	65	69	78	66	71·5	0	0	6	0	E 0	SE 0	SE 0	SE 0	0	0	0	0	63	72				61	72	
8	76·52	96·48	76·40	76·40	22	23	28	23	72	74	80	72	76	0	0	0	0	SE 1	SW 1	NW 5	SW 1	0	0	NW 6	0	70	71	5½ A.M.	6½ P.M.	·03	58	72	
9	76·40	76·40	76·40	76·50	20	21	23	19	69	70	74	70	71·5	0	0	0	10	NE 1	NE 0	SE 0	NW 1	0	0	0	0	66	68	3 P. M.	5 P. M.	·40	56	66	
10	76·60	76·68	76·40	76·00	20	23	23	20	69	74	72	68	70·5	6	5	0	0	NE 0	NE 0	NE 1	NE 1	NE 5	NE 4	0	0	66	70		2 P. M.	·12	65	70	
11	76·10	76·20	76·22	76·25	20	23	24	19	68	74	75	70	71·5	0	0	6	0	NW 2	NW 2	NW 1	NW 1	NW 2	NW 2	0	0	66	71	12 M.			66	68	
12	76·20	76·30	76·40	76·30	17	21·5	28	21	65	71	84	72	74·5	8	10	10	10	NW 1	NW 2	W 1	NW 1	NW 2	0	0	0	64	78			2·50	65	76	
13	76·30	76·42	76·45	76·40	17	21	31	23	68	71	90	75	79	10	10	10	10	W 1	NW 1	SE 6	SW 1	0	0	0	0	66	85				62	81	
14	76·40	76·40	76·05	76·05	21	24	26	22	71	76	81	74	76	10	10	10	10	NW 1	N 0	NW 3	NW 1	0	0	0	0	68	76				64	75	
15	76·00	76·00	76·10	76·05	20	23	30	20	70	74	88	71	79	10	10	10	10	NE 1	NE 1	SW 1	SW 1	0	0	0	0	66	75			·03	66	79	
16	76·00	76·00	76·00	76·00	18	21	31	24	65	71	82	74	73·5	10	10	10	10	W 1	NW 1	SW 1	SW 1	0	0	0	0	63	76				62	78	
17	76·00	76·00	76·05	75·90	19	21	30	21	68	74	80	75	74	10	10	10	10	SW 1	SW 1	SW 1	S 1	0	0	0	0	65	76				61	78	
18	75·90	76·00	76·00	76·00	20	24	29	24	70	76	82	75	76	0	10	10	10	S 1	SW 1	SE 0	SE 3	0	0	0	0	68	77				58	76	
19	76·00	76·00	76·00	75·95	22	25	28	22	72	77	80	73	76	10	10	10	6	SW 1	NW 1	NW 1	NE 2	0	0	0	NE 2	67	75				55	74	
20	75·80	75·80	75·70	75·70	20	21	26	21	70	73	79	72	74·5	0	5	5	0	NW 0	NW 1	NE 0	NE 0	0	NW 3	NE 2	0	68	76			·45	55	75	
21	75·85	76·20	77·00	77·00	19	23	28	20	69	74	83	70	76	0	6	6	0	NW 1	NE 0	SE 0	SW 0	0	NE 2	0	0	68	78	4 P. M.			58	79	
22	77·00	77·00	77·00	77·00	19	20	53	23	68	69	72	73	70	0	0	8	0	NW 0	NW 1	NW 0	NW 1	0	0	0	0	68	78		11 A. M.	9·70	50	68	
23	76·70	76·72	76·70	76·65	20	24	26	24	71	74	76	71	74·5	0	6	8	0	NE 1	NE 0	NE 1	NW 1	0	NE 2	0	0	68	72				48	66	
24	76·68	76·75	76·70	76·70	20	22	30	24	70	73	80	74	75	0	5	10	0	NE 1	NW 1	NW 1	NW 0	0	NW 4	0	0	66	76				51	75	
25	76·75	76·80	76·80	76·75	20	23	31	25	70	74	86	75	78	10	10	10	10	N 0	NE 1	NE I	SW 1	0	0	0	0	65	80				60	78	
26	76·70	76·70	76·70	76·85	19	24	26	23	69	76	79	75	74	10	10	10	10	SW, 0	W 0	S 3	SW 1	0	0	0	0	66	76				58	78	
27	76·80	76·90	77·00	77·00	20	28	28	24	69	76	86	76	77·5	5	5	8	0	W 0	W 1	SE 3	SE 3	W 3	W 2	SE 2	0	64	75				61	71	
28	76·90	76·90	76·90	76·90	23	24	26	23	73	76	80	75	76·5	0	0	5	0	SW 1	SW 0	SW 0	NW 0	0	0	0	0	68	75	9 A. M.	11 A. M.	·02	60	73	
29	76·95	76·95	77·00	77·00	21	22	24	20	70	73	74	72	72	0	0	5	0	NE 1	E 0	SE 2	SW 1	0	0	SE 4	0	66	72			·01	58	70	
30	77·00	77·00	77·00	77·00	20	24	26	21	70	74	79	74	74·5	0	6	8	0	NW 1	W 0	NW 1	NW 1	0	W 2	NW 2	NW 2	66	74				60	75	
31	76·80	76·80	76·90	76·80	21	25	31	24	70	76	86	72	78	5	10	10	0	NW 1	NW 1	NW 1	NW 1	NW 3	NW 0	NW 0	NW 1	65	74				62	81	
Monthly Mean.	76·51	76·55	76·56	76·53	19·45	22·65	27·20	21·7	68.71	73·10	79·83	72·23	74·29	3·84	5·84	7	4·65									66·74	74·61			15·26	60·42	74·65	

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude, 40° 42′ North. Longitude, 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1843.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			DANIELL'S HYGROMETER.		REMARKS.
Sept.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer.	
	Centimetres.	Centimetres.	Centimetres.	Centimetres.	Centigrade.	Centigrade.	Centigrade.	Centigrade.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	76·31	76·31	76·20	76·20	19°	19°	19°	18°	68°	70°	68°	68°	68°	0	5	5	6	NW 3	NW 2	NE 1	NE 0	0	NW 3	NE 3	0	66°	65°				58°	66°	
2	76·31	76·31	76·31	76·31	18	19	26	22	66	68	80	74	73	0	0	8	6	NE 0	NW 0	SW 2	SW 1	0	0	SW 2	SW 3	64	75				60	76	
3	76·31	76·31	76·32	76·31	21	27	31	23	70	82	90	78	80	10	10	10	5	N 1	N 1	SW 1	NW 1	0	0	0	NW 6	66	74				56	84	
4	76·40	76·39	76·01	76·14	21	26	34	28	72	80	92	79	82	10	10	6	0	NW 0	NW 1	W 2	SW 1	0	0	W 4	SW 1	70	85				51	85	
5	76·04	76·09	76 19	76·24	25	33	33	26	72	78	91	75	81·5	10	10	10	10	NE 1	NE 1	NE 2	NE 1	0	0	0	0	68	84				53	84	
6	76·49	76·49	76·44	76·49	20	22	24	19	69	74	76	70	72·5	5	3	5	6	NE 2	E 1	NE 1	NE 0	NE 4	0	NE 4	0	66	73				50	72	
7	76·59	76·59	76·61	76·59	17	18	20	18	64	66	68	67	66	4	3	0	6	E 2	E 1	SE 3	NE 1	E 3	E 2	0	NE 3	62	65	9 A. M.	4 P. M.	·10	48	66	
8	76·51	76 54	76·49	76·49	18	18	22	17	66	67	74	65	70	0	8	8	10	NE 2	NE 2	N 1	NE 1	0	E 3	0	0	65	72				50	71	
9	76·49	76·44	76·44	76·49	16	17	19	16	62	63	72	68	67	10	10	10	10	NW 5	NW 4	NE 2	NE 0	0	NE 2	0	0	60	59				48	60	
10	76·19	76·44	76·44	76·39	13	14	15	13	55	60	64	56	59·5	0	6	4	0	NE 2	NE 1	SW 1	NW 0	0	0	SW 4	0	52	58	7 P. M.			48	59	
11	76 57	76·54	76·51	76·54	12	13	13	12	50	52	53	52	51·5	0	0	0	0	NW 0	SW 1	NW 0	NE 1	0	NE 3	0	0	50	52	9 A. M.	11 A. M.	1·50	46	53	
12	76·54	76·51	76·54	76·51	12	14	18	15	52	54	64	56	58	5	6	10	0	NE 0	NE 0	NE 0	NE 0	0	0	0	0	51	62			·20	52	62	
13	76·59	76·59	76·69	76·80	12	15	20	16	52	56	70	58	61	10	10	6	0	NE 3	E 2	E 0	NE 2	0	0	0	0	48	65				49	66	
14	76·89	76·89	76·81	76·80	12	13	16	15	54	60	62	60	58	3	5	0	0	E 0	NE 2	NE 2	SE 2	0	0	0	0	52	61			·10	49	60	
15	76·60	76·40	76·40	76·40	19	20	23	22	70	71·5	74	70	72	2	0	5	0	SE 8	SE 7	SE 4	NW 1	SE 4	NE 4	SE 5	NW 0	68	72	9 A. M.	12 M.	·16	52	70	
16	76·19	76·18	76·15	76·15	20	26	28	21	70	73	76	72	73	10	10	10	10	SW 1	SW 1	W 1	NW 0	0	SE 2	0	0	68	73				50	71	
17	76·23	76·20	76·25	76·25	18	21	30	28	68	72	80	74	74	2	5	10	0	W 1	SW 1	SW 1	W 1	W 3	0	0	0	66	75				56	76	
18	76·34	76·40	76·40	76·40	20	25	29	24·5	70	76	86	77	78	0	8	10	5	W 1	SW 1	S 1	NW 1	0	SW 2	0	0	70	82				55	80	
19	76·50	76·50	76·50	76·50.	20	24	28	24	70	75	82	75	76	10	10	10	10	NW 1	NW 0	NW 0	NW 0	0	SW 2	0	0	66	78				49	75	
20	76·48	76·65	77·25	77·10	20	22	26	22	70	74	82	72	76	10	10	10	10	NE 1	NE 0	NE 0	NW 0	0	0	0	0	67	76				51	78	
21	77·06	77·05	76·79	76·59	16	20·5	29	21	64·5	71·5	82	75	73·25	6	10	10	0	SW 5	SW 3	SW 2	NW 3	SW 3	SW 0	0	0	63	78				60	78	
22	76·25	76·20	76·25	76·30	17	17	22	20	60	62	78	70	69	10	10	10	0	NE 4	NE 2	NE 1	NW 0	0	0	0	0	60	76				58	75	
23	76·39	76·30	76·30	76·30	14	16·5	23	20	58	62	72	68	65	0	4	8	0	SW 0	SW 1	SW 0	SW 0	0	SW 2	0	0	56	70				58	71	
24	76·20	76·40	76·40	76·40	18	19	26	22	60	68	80	74	70	6	10	10	10	SW 2	SW 2	SW 0	SW 0	0	0	0	0	58	76				62	70	
25	76·19	76·25	76·21	76·00	22	28	25	20	72	80	84	72	78	10	8	10	0	W 1	W 1	SW 1	NW 0	0	0	0	0	60	78	6½ P. M.	7½ P. M.	·20	68	76	
26	76·00	75·80	75·99	76·00	20	21	20	15	68	72	62	58	65	4	2	0	0	NW 2	NW 0	NE 0	NE 3	NW 5	0	0	0	66	60	10 A. M.	11 P. M.	·80	59	61	
27	76·01	76·10	76·14	76·20	8	13	14	7	48	53	60	42	54	10	6	10	0	NE 1	N 2	NW 0	NE 3	0	N 3	0	NE 2	48	59				58	56	
28	76·24	76·24	76·60	76·59	4	9	14	12.5	39	46	60	56	49·5	10	6	0	10	NE 1	NW 1	SW 3	SW 4	0	0	SW 0	0	38	60				59	62	
29	76·55	76·60	76·65	76·50	11	19	25	14	52	64	68	55	60	10	10	10	0	NW 1	NW 0	NW 0	NE 0	0	0	0	0	48	66				58	68	
30	76·45	76·50	76·50	76·30	10	18	20	18	52·5	60	68	60	60·25	10	10	10	0	NE 0	NE 0	NE 0	NE 0	0	0	0	0	51	66				56	65	
Monthly Mean.	76·41	76·41	76·43	76·41	16·43	19·53	23·07	19·13	62·13	67·00	73·93	66·53	68·03	5·90	6·83	7·17	3·80									59·70	69·63			3·06	54·53	69·87	

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude 40° 42′ North. Longitude 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1843.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			DANIELL'S HYGROMETER.		REMARKS.
October.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer	
	Centimetres.	Centimetres.	Centimetres.	Centimetres.	Centigrade.	Centigrade.	Centigrade.	Centigrade.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	76·20	76·20	76·04	76·00	15°	16°	20°	20°	50°	52°	60°	60°	55°	0	0	0	0	SE 0	SE 2	SE 1	SW 2	0	0	0	0	52°	58°				54°	62°	Began to rain at 9 P. M. 30th September.
2	75·90	75·94	76·00	76·00	15	17	23	16	60	61	72	53	66	10	10	10	0	SW 0	SW 0	NW 4	NW 3	0	0	0	0	58	69		5 A. M	2·00	56	65	Thunder and lightning during the night.
3	75·90	75·57	76·40	76·35	13	16	16	14	55	60	58	50	56·5	6	7	3	0	SW 1	W 5	NW 8	NW 8	SW 5	W 4	NW 4	0	53	58				50	60	
4	76·32	76·34	76·34	76·30	9	11	14	12	46	50	52	48	49	10	10	5	6	W 5	NW 4	NW 4	NW 6	0	0	NW 5	NW 5	45	51				48	52	
5	76·30	76·31	76·36	76·36	10	16	20	18	48	50	60	55	54	10	10	10	10	NE 6	NW 4	NW 1	NW 1	0	0	0	0	46	56				50	58	
6	76·39	76·30	76·25	76·20	10	20	24	18	50	65	70	60	60	10	10	10	10	NW 0	SW 0	SW 0	S 0	0	0	0	0	48	66				50	67	
7	76·15	76·10	76·10	75·90	16	16	16	16	60	61	60	60	60	0	0	0	0	SE 1	NE 1	NE 1	E 6	0	0	0	0	58	58	6 A. M.	6 P. M.	1·50	52	59	
8	75·50	75·55	75·60	75·60	18	18	17	13	63	62	60	56	61·5	0	0	0	8	SE 4	S 3	SW 2	SW 4	0	0	0	SW 3	60	58	7 P. M.	5 P. M.	1·30	50	59	Day stormy, with thunder and lightning.
9	75·55	75·60	75·60	75·60	7	12·5	14	10	44	56	64	54	54	10	10	10	10	NE 2	SW 0	W 0	NW 2	0	0	0	0	42	60				50	58	
10	75·55	75·51	75·50	75·50	9	10	16	10	50	52	66	51	58	10	10	8	6	NW 2	NW 2	NW 2	NW 1	0	0	NW 2	NW 3	48	60				41	65	
11	75·50	75·50	75·65	75·75	8	10	17	15	46	55	65	58	55·5	5	10	10	10	NW 2	NW 0	NW 1	NW 0	NW 3	0	0	0	45	54				46	63	
12	75·85	75·90	75·90	76·00	12	16	22	14	52	58	72	60	62	6	10	10	10	E 0	SE 0	NE 1	NE 2	0	0	0	0	50	68				58	60	
13	76·15	76·15	76·04	76·10	8	14	15	11	46	52	65	54	55·5	10	10	10	5	N 2	NE 0	NW 2	NW 4	0	0	0	NW 4	45	48				54	64	
14	76·10	76·11	76·40	76·40	6	10·5	11	8	42	48	55	50	48·5	5	8	7	0	NW 3	NW 2	NW 3	NW 2	NW 2	NW 1	NW 2	0	40	36				36	58	
15	76·50	76·48	76·64	76·60	4	8	11·5	9	40	44	53	50	46·5	5	4	0	0	NW 2	NW 1	SW 0	SE 0	NW 3	NW 4	0	0	44	47				37	52	
16	76·56	76·54	76·54	76·30	10	13·5	14	8	51	56	56	46	53·5	5	6	10	5	SW 2	SW 1	NW 1	NW 4	SW 4	SW 2	NW 1	NW 5	53	50				42	63	
17	76·19	76·14	76·00	76·00	5	10	11·5	9	40	50	54	48	47	10	10	2	0	N 3	NW 2	NW 4	NW 3	0	0	NW 5	NW 3	40	50				41	56	
18	76·00	76·00	76·25	76·09	6·5	10	14	12	42	48	60	51	51	10	10	0	10	NW 2	NW 3	W 3	NW 4	0	0	0	0	41	47				35	58	
19	76·16	76·49	76·59	76·54	9·5	11·5	15	10	48	53	59	52	53·5	10	7	10	10	NW 4	NW 3	NE 2	NE 1	0	NW 3	0	0	46	50			·01	34	54	Rain during the night.
20	77·00	77·10	77·00	76·90	6	10·5	13	12	47	52	65	56	55	10	10	10	10	SE 1	SE 2	SW 2	W 0	0	0	0	0	44	61				36	58	
21	76·19	76·14	76·09	76·04	15	16	20	17	59	61	74	63	66·5	10	10	10	10	NW 2	SW 2	W 0	NE 1	0	0	0	0	47	68				39	68	
22	75·80	75·65	75·60	75·60	15	16	13	13	60	63	58	46	59	10	10	0	0	NE 2	SE 1	SE 5	SE 4	0	0	0	0	58	53				38	62	
23	76·30	76·30	76·51	76·48	8	8	10	7	42	48	52	45	47	5	6	2	10	NE 0	NE 5	NE 5	NW 1	NE 4	NE 4	NE 6	NW 1	44	40			·50	34	48	Rain during the night.
24	76·65	76·94	76·60	76·50	8	13	16	10	39	47	68	50	53·5	10	10	10	10	W 1	SW 1	S 0	SE 0	0	0	0	0	40	54				36	50	
25	76·49	76·40	76·34	76·60	12	12·5	12	10	52	53	53	50	52·5	4	5	2	0	E 0	SE 0	SW 0	NW 0	0	0	0	0	48	48				38	50	
26	76·70	76·70	76·66	76·45	8	8	8	8	48	52	49	44	48·5	0	0	0	0	NE 1	NE 2	NE 1	SE 2	0	0	0	0	42	46				38	53	
27	75·60	75·50	75·55	75·80	8	10	16	10	46	51	51	50	48·5	0	0	0	0	SE 2	SE 1	N 2	N 0	0	0	0	0	45	41			·60	40	52	
28	76·70	76·70	76·65	76·60	10	10	12	8	45	45	45	45	45	6	0	8	10	SW 1	SW 1	W 0	NW 0	SW 4	SW 1	W 2	0	44	41				42	51	
29	76·74	76·70	76·70	76·60	7	11	16	9	44	48	58	46	51	2	6	10	10	NE 1	NE 0	NE 0	NW 1	NE 3	NE 2	0	0	40	51				40	58	
30	76·50	76·50	76·50	76·78	8	9	10	7	45	45	47	44	46	5	6	0	10	SW 1	SW 1	SW 0	NW 0	SW 4	0	0	0	42	43				39	48	
31	77·20	77·10	77·16	77·39	4	5	11	6	38	42	50	40	44	10	10	10	10	NE 2	NE 2	NE 0	NE 0	0	0	0	0	36	46				36	52	
Monthly Mean.	76·21	76·21	76·24	76·24	9·70	12·40	15·10	11·60	48.32	53	59·06	51·58	53·66	6·60	6·93	5·71	5·81									46·60	52·90			5·91	43·32	57·52	

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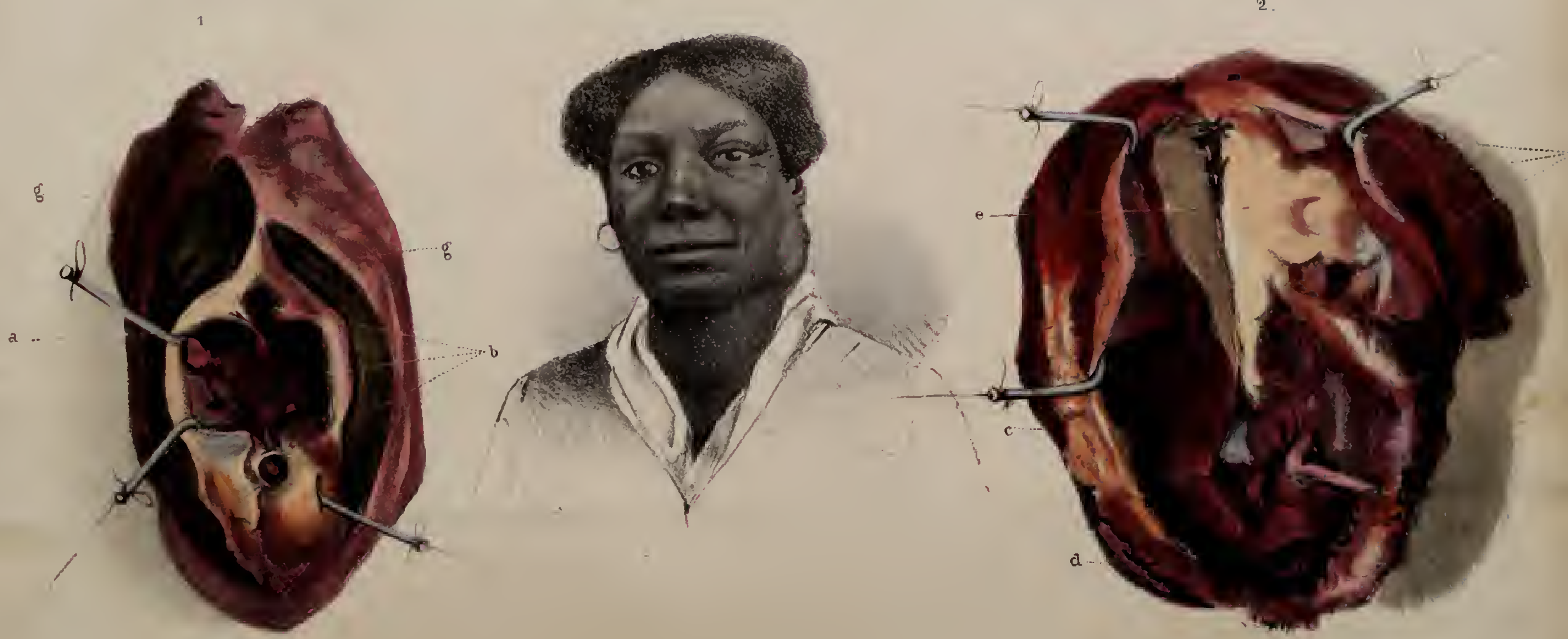
1843.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			DANIELL'S HYGROMETER.		REMARKS.
Novemb	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer.	
	Centimetres.	Centimetres.	Centimetres.	Centimetres.	Centigrade.	Centigrade.	Centigrade.	Centigrade.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	77·70	77·60	77·60	77·20	3°	9°	13°	10°	34°	48°	55°	48°	44·5°	10	10	10	0	NW 1	NW 1	SW 0	SE 0	0	0	0	SE 4	35°	50°				34°	51°	
2	76·10	76·09	76·04	76·05	10	12	12	8	50	53	56	49	53	0	8	6	10	E 1	NW 2	NW 0	NW 1	0	NW 4	NW 4	0	46	53		9 A. M.	·50	46	52	Began to rain during the night.
3	76·54	76·00	76·20	76·20	5	6	11	5	40	44	53	44	46·5	10	10	5	10	NW 5	NW 4	NW 5	NW 5	0	0	NW 2	0	38	50				38	52	
4	76·20	76·20	76·80	76·70	2	5	10·5	3·5	38	40	42	39	40	10	6	0	4	NW 2	NW 1	NW 2	NW 3	0	NW 4	0	0	36	40				37	42	
5	76·80	76 90	76 70	76·79	1	1·5	6	3	34	31	44	35	39	4	6	8	10	NW 1	NW 1	NW 1	NW 2	NW 3	NW 4	0	0	30	38				36	42	
6	76·79	76·90	76·90	76·70	0	2·5	8	3	33	36	48	38	40·5	10	10	10	10	NW 2	NW 2	NW 2	NE 0	0	0	0	0	30	45				36	48	
7	76·68	76·65	76·00	76·50	1	3	3	2	33	36	34	33	33·5	0	0	0	0	NE 0	NE 0	NE 0	NE 0	0	0	0	0	30	32	1 P. M.	5 P. M.	·08	39	35	First fall of snow.
8	76·40	76·50	76·40	76·40	2	4	5	4	33	34	40	38	36·5	8	4	8	10	NW 0	W 2	SW 1	NW 0	NW 2	W 3	SW 4	0	30	36				35	41	
9	76·40	76·40	76·40	76·50	2·5	4	6	6	35	40	42	40	38·5	10	10	0	0	NW 0	NW 0	NW 2	NE 0	0	0	0	0	31	39				36	43	
10	76·55	76·55	76·55	76·50	7	8	8	6	41	45	46	45	45	0	0	0	0	NE 0	NE 0	NE 0	NE 0	0	0	0	0	46	44		11 A. M.	·10	48	46	Rain began in the course of the night.
11	76·10	76·00	76·00	76·05	4	7	8	7	43	46	47	45	45	0	0	0	6	SE 0	SE 0	SE 0	NE 6	0	0	0	0	46	43	9½ A.M.	6 P. M.	·60	42	46	Very high winds during the night.
12	76·20	76·05	76·00	76·00	6	8	8	4	38	42	43	34	40·5	10	10	6	10	NE 3	NW 6	NW 5	NW 5	0	0	NW 6	0	36	41				32	44	
13	76·15	76·10	76·29	76·49	3	5	6	2	32	34	35	32	33·5	6	10	4	10	W 2	NW 3	NW 2	NW 4	W 2	0	NW 3	0	30	31				33	35	
14	76·60	76·60	76·70	76·75	—1	3	3	2	31	36	36	33	33·5	10	4	6	20	NW 3	NW 3	NW 1	NW 2	0	NW 1	NW 4	0	30	34				34	36	
15	77·00	76·95	76·90	76·90	—1	2	6	6	31	34	42	42	36·5	6	0	0	0	NE 1	NE 0	NE 0	NE 0	NE 3	0	0	0	29	38				34	41	
16	76·80	76·80	76·80	76·77	5	6·5	8·5	6	38	43	46	40	42	0	0	0	0	S 0	S 0	W 1	W 1	0	0	0	0	40	40			·55	44	46	Rain began and ended during the night.
17	76·81	76·80	76·79	76·76	5·5	8	11	8	40	46	52	48	46	0	2	0	0	N 0	E 1	SE 1	SE 1	0	0	0	0	42	42				40	52	Dense fog until 8 o'clock A. M.
18	76·70	76·71	76·60	76·55	10	12	14	8	50	54	58	48	54	0	0	10	10	SW 1	SW 1	SW 1	SW 1	0	0	0	0	44	44	8 P. M.		·08	42	56	Rain began at 8 P. M. and ended during the night.
19	76·42	76·42	76·41	76·42	5·5	13	11	9	41	51	57	49	50·5	10	6	8	10	W 2	NW 2	NW 4	NW 2	0	NW 1	NW 2	0	40	50				40	56	
20	76·49	76·48	76·50	76·48	3·5	5	6·5	7	39	44	47	48	43	10	8	0	0	W 2	W 2	W 1	SW 1	0	0	0	0	38	40				44	57	
21	76·00	76·00	75·50	75·50	5	7·5	7·5	6	46	48	47	46	46·5	0	0	4	4	E 1	E 1	W 8	W 4	0	0	0	0	42	42		8½ A.M.	·85	47	47	Rain began in the course of the night. Severe squall began at 3 P.M., ended at 3¼ P.M.
22	76·53	76·54	76·40	76·40	3.5	6	7	4	40	42	44	38	42	4	10	5	10	W 3	W 3	NW 6	NW 4	W 3	0	NW 7	0	44	40				44	45	
23	76·20	76·15	76·15	76·20	2	5	6	5	36	42	43	40	39·5	10	10	10	10	SW 3	W 1	NW 1	NW 1	0	0	0	0	34	38				44	44	
24	76·00	76·00	76·08	76·15	10	14	20	12	47	48	56	46	51·5	0	0	0	10	SW 1	SW 1	SW 1	W 0	0	0	0	0	48	51				45	55	
25	76·19	76·24	76·30	76·30	3·5	8	12	8	40	46	50	43	45	10	10	10	10	NW 3	NW 2	NW 1	NW 1	0	0	0	0	37	50				44	50	
26	76·39	76·49	76·34	76·39	2·5	6	8	5	40	44	48	43	44	0	4	0	10	NW 1	W 1	SW 3	NW 1	NW 1	W 1	SW 2	0	36	40				40	47	
27	76·40	76·40	76·40	76·40	—3·5	1	2·5	2	32	36	41	32	36·5	10	10	10	10	N 3	NW 3	NW 3	NW 1	0	0	0	0	30	32				32	42	
28	76·44	76·45	76·40	76·40	—5	2	3	1	28	36	31	32	31	10	10	10	6	NW 2	NW 1	NW 1	NW 1	0	0	0	0	29	33				36	34	
29	76·40	76·40	76·00	76·00	—1	2	0	—1	32	31	32	31	32	0	0	0	0	W 1	NW 1	SW 1	NW 1	0	0	0	0	30	30	12 M.	4 P. M.	·06	44	32	Sleet.
30	76·10	76·13	76·55	76·80	—1	2	2·5	—3	32	38	39	30	35·5	8	8	0	10	NW 1	NW 1	NW 1	NE 1	0	0	0	0	30	30				27	38	A large halo around the moon.
Monthly Mean	76·45	76·45	76·42	76·44	3·83	5·93	7·77	5·20	37·77	41·80	45·23	40·30	41·50	5·53	5·53	4·33	6·33									36·23	40·63			2·82	39·10	45·17	

Errata.—In the Register for August—Barometer on the 8th, for 96·48 read 76·48; Thermometer attached, on the 22d, for 53° read 23°; and on the 23d, for 24° at 9 P. M. read 21°.

D^r HOSACK'S CASE OF TUMOR OF PAROTID GLAND.



a b c & d *Melanotic matter.*
e & f *Scirrhous remains of Parotid gland.*

LITH OF ENDICOTT.

THE NEW YORK

JOURNAL OF MEDICINE.

FOR MARCH, 1844.

PART FIRST.

Original Communications.

Art. I.—*Original Communications from William H. Prescott and Washington Irving, Esqs., relative to the American Origin of Syphilis; with additional Remarks descriptive of an Epidemic Disease, termed Matlazahuatl, which, prevailing among the Native Mexicans, has been supposed to be analogous to the Yellow Fever; and also descriptive of the fact, that the Prophylactic Power of the Vaccine Virus was known in the Peruvian Andes, before the era of Jenner.* By the Editor.

Although the question, whether Syphilis existed in the West Indies and on the continent of America at the period of their discovery by the Spaniards, is, by the profession in this country, very generally decided in the negative; yet, in order effectually to remove all remaining doubts, and to efface completely the stigma thus cast upon the New World by the Old, at a time when, in Europe, the opinion that the human species, and indeed the whole animal kingdom, in America, had become entirely *degenerated*, we will here present the evidence of two of the most accomplished and distinguished historians of modern times. Peculiarly qualified for this decision by the nature of their literary pursuits, it will suffice to say that the one is the author of "The Life and Voyages of Columbus," and the other, of "Ferdinand and Isabella," and more recently, "The History of the Conquest of Mexico." After this testimony shall have been presented to the world, this long-mooted question must be considered as conclusively put to rest, and never more to be revived.

The following letter is addressed by Mr. Prescott to Alexander E. Hosack, M.D.

"*Boston, January* 22d, 1844.

"My dear Sir,—I have received your note of the last week, inquiring whether in my researches relative to the History of Mexico, I had met with any trace of the existence of the Venereal disease among the Aborigines previous to the coming of the Spaniards. I observe, also, that you remark, that Dr. Forry had already put the same question in a letter addressed to me some time since. I assure you that I never received that letter. If I had, I should have answered it with the sincere pleasure and promptness with which I now reply to yours.

"In a note in the 'History of Ferdinand and Isabella,' vol. ii., p. 501, I took occasion to express my own conviction, that the Venereal disease did not exist among the natives of America at the time of its discovery. I had met with no allusion to it in the narratives of Columbus or his son Ferdinand, or in any other record of the Spanish adventures.

"I have been led into a much wider range of observation in preparing the 'History of the Conquest of Mexico.' But it has served to confirm my former opinion, since I have never met with a notice of this disease, or of any which resembles it. The ancient chronicles speak of an Indian epidemic, called the *Matlazahuatl*, which swept off great numbers of the natives both before and after the Conquest, and which seems to have had some resemblance to the yellow fever. They also notice the introduction of the small-pox by a black, who came into the country the year after the arrival of Cortés. The Spaniards would certainly not have omitted to notice so terrible a disorder as the Venereal, had it been found among the natives: especially, as considering their own licentious indulgence, it must have fallen very heavily on themselves. Their uniform silence, therefore, is evidence so strong, that it may be called positive, rather than negative, and may be considered as establishing the fact, that the disease was not known in the Mexican empire, at the time of its discovery. Whether a disease so easily propagated among adjacent tribes, and which seems to be circumscribed by no parallel of latitude, could have existed in other parts of the Continent without finding its way into Mexico, is a question which your own knowledge of the subject will enable you to determine better than I can.

"Believe me, my dear sir, very truly yours,

"Wm. H. Prescott.

"Alex. E. Hosack, Esq."

The following extract from "Ferdinand and Isabella," gives the paragraphs referred to above by Mr. Prescott:

"While the colonial commerce failed to produce immediately the splendid returns which were expected, it was generally believed to have introduced a physical evil into Europe, which, in the language of an eminent writer, 'more than counterbalanced all the benefits that resulted from the discovery of the New World.' I allude to the loathsome disease which Heaven has sent as the severest scourge of licentious intercourse between the sexes; and which broke out with all the virulence of an epidemic in almost every quarter of Europe, in a very short time after the discovery of America. The coincidence of these two events led to the popular belief of their connection with each other, though it derived little support from any other circumstance. The expedition of Charles the Eighth against Naples, which brought the Spaniards, soon after, in immediate contact with the various nations of Christendom, suggested a plausible medium for the rapid communication of the disorder; and this theory of its origin and transmission, gaining credit with time, which made it more difficult to be refuted, has passed with little examination from the mouth of one historian to another to the present day.

"The extremely brief interval which elapsed, between the return of Columbus and the simultaneous appearance of the disorder at the most distant points of Europe, long since suggested a reasonable distrust of the correctness of the hypothesis; and an American naturally desirous of relieving his own country from so melancholy a reproach, may feel satisfaction that the more searching and judicious criticism of our own day has at length established beyond a doubt that the disease, far from originating in the New World, was never known there till introduced by Europeans."*

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* "The curious reader is particularly referred to a late work, entitled *Lettere sulla Storia de' Mali Venerei, di Domenico Thiene, Venezia,* 1823; for the knowledge and

On learning the miscarriage of our first letter, we addressed Mr. Prescott a second time, suggesting several inquiries; and to this, we promptly received the following:

" *Boston, January* 27th, 1844.

" My dear Sir,—I am much obliged to you for calling my attention to Oviedo's

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loan of which I am indebted to my friend, Dr. Walter Channing. In this work, the author has assembled all the early notices of the disease of any authority, and discussed their import with great integrity and judgment. The following positions may be considered as established by his researches. 1. That neither Columbus nor his son, in their copious narratives and correspondence, allude in any way to the existence of such a disease in the New World. I must add, that an examination of the original documents published by Navarrete since the date of Dr. Thiene's work, fully confirms this statement. 2. That among the frequent notices of the disease, during the twenty-five years immediately following the discovery of America, there is not a single intimation of its having been brought from that country; but, on the contrary, a uniform derivation of it from some other source, generally France. 3. That the disorder was known and substantially described previous to the expedition of Charles VIII., and, of course, could not have been introduced by the Spaniards in that way, as vulgarly supposed. 4. That various contemporary authors trace its existence in a variety of countries, as far back as 1493, and the beginning of 1494, showing a rapidity and extent of diffusion perfectly irreconcilable with its importation by Columbus in 1493. 5. Lastly, that it was not till after the close of Ferdinand and Isabella's reigns, that the first work appeared affecting to trace the origin of the disease to America; and this, published in 1517, was the production not of a Spaniard, but a foreigner.

" A letter of Peter Martyr to the learned Portuguese Arios Barbosa, professor of Greek at Salamanca, noticing the symptoms of the disease in the most unequivocal manner, will settle at once this much-vexed question, if we can rely on the genuineness of the date, the 5th of April, 1488, about five years before the return of Columbus. Dr. Thiene, however, rejects the date as apocryphal, on the ground, 1. That the name of ' morbus Gallicus,' given to the disease by Martyr, was not in use till after the French invasion, in 1494. 2. That the superscription of Greek professor at Salamanca was premature, as no such professorship existed there till 1508.

" As to the first of these objections, it may be remarked, that there is but one author prior to the French invasion, who notices the disease at all. He derives it from Gaul, though not giving it the technical appellation of *morbus Gallicus;* and Martyr, it may be observed, far from confining himself to this, alludes to one or two other names, showing that its title was then quite undetermined. In regard to the second objection, Dr. Thiene does not cite his authority for limiting the introduction of Greek at Salamanca to 1508. He may have found a plausible one in the account of that university compiled by one of its officers, Pedro Chacon, in 1569, inserted in the eighteenth volume of the Semanario Erudito (Madrid, 1789). The accuracy of the writer's chronology, however, may well be doubted from a gross anachronism on the same page with the date referred to, where he speaks of Queen Joanna, as inheriting the crown in 1512. (Hist. de la Universidad de Salamanca, p. 55.) Waving this, however, the fact of Barbosa being Greek professor at Salamanca in 1488 is directly intimated by his pupil, the celebrated Andrew Resendi. ' Arios Lusitanus,' says he, ' quadraginta, et eo plus annos Salmanticæ tum Latinas litteras, tum Græcas, magnâ cum laude professus est.' (Responsio ad Quevedum, apud Barbosa, Bibliotheca Lusitana, tom. i., p. 77.) Now as Barbosa, by general consent, passed several years in his native country, Portugal, before his death in 1530, this assertion of Resendi necessarily places him at Salamanca in the situation of Greek instructor some time before the date of Martyr's letter. It may be added, indeed, that Nic. Antonio, than whom a more competent critic could not be found, so far from suspecting the date of the letter, cites it as settling the period when Barbosa filled the Greek chair at Salamanca. (See Bibliotheca Nova, tom. i., p 170.)

" Martyr's epistle, if we admit the genuineness of the date, must dispose at once of the whole question of the American origin of the venereal disease. But as this question is determined quite as conclusively, though not so summarily, by the accumulated evidence from other sources, the reader will probably think the matter not worth so much discussion."

writings, as it enables me to correct any wrong impressions which might arise from my remarks on the Venereal disease in my note to Dr. Hosack. The works of Oviedo to which I suppose you refer, are his *Sumario*, as it is called, and his *Historia General de las Indias ;* the first of which was originally published in 1526, and the last in 1535. The former work is devoted to the geography, natural productions, and some mention of the races who inhabited the Islands. The latter work embraces the same topics in a more expanded form, with an additional account of the reduction of the Islands by the Spaniards. I had read parts of both, especially the parts in the latter relating to the occupation of the country. But as the natural products and climate, &c., of the islands were foreign to my subject, I passed rapidly over them.

"Oviedo, in the cap. 77, of the *Sumario*, speaks of a tree called by the natives *Guaiacan*, or *Palo Santo*. In his second work on the Indies, he corrects an error by stating that, although very similar in their virtues, they are distinct trees. The wood of these trees, he says, when boiled in pure water, makes a decoction of marvellous efficacy in curing the Venereal disease, or as he calls it, the '*disease of the buboes*,' *el mal de las bubas*. He goes on to state that 'there is no doubt this disease came from the Indies, and that it is very common among the natives, though not so dangerous there as in Europe, since the Indians cure the disorder without much difficulty by means of the decoction above-mentioned ;' and on 'Tierra-firme,' he adds, 'the natives overcome it, in like manner, by an infusion prepared from certain herbs.' He then states, that the first time that the disease was seen in Spain, was after the return of Columbus, when several of his followers imported it into the country ; and on the expedition to Naples against Charles VIII., in 1495, it was communicated to the French troops, and then, after rapidly spreading over Christendom, passed into Africa. The French called the disease the *mal de Napoles*, and the Italians called it the *mal Francisa*. Thus far Oviedo. The latter name soon became the popular one, perhaps because the Italians of that day, being proficients in medical science, made it known by their writings, while the French were probably equally active in making it known by their gallantries.

"This is the vulgar history of the disorder which obtained credit very early ; founded, I suppose, on this statement of Oviedo. This writer, however, cannot be implicitly followed. This may be said without impeachment of his integrity, and without adopting the wholesale denunciation of the good, but prejudiced Las Casas, that 'his works are as full of lies as of pages.' He collected his information from all, including the most doubtful sources, and in his eagerness to add to the stores of natural science, was not sufficiently discriminating. His first account was not written till thirty-four years after the discovery of America, the distance of a generation. And it seems not improbable, as it is unsupported by the testimony of others contemporary with the discovery, that he should have described a disease originally introduced by the Spaniards, but for which the natives, skilful in detecting the medicinal virtues of their own plants, were quick to find a remedy ; a remedy greatly facilitated in its operation by the mild character of the climate.

"Now that I turn my attention to this particular topic, I find the disease noticed by another contemporary of the Conquest, Gomara, the chaplain of Cortés. It is in the twenty-ninth chapter of his *Historia de las Indias*, a work which I have hardly had occasion to examine for the history of the Conquest of Mexico. In his description of the island of Hispaniola, he gives the same account of the venereal *bubas* as that found in Oviedo, although he cites as his authorities, a medical writer, Joannes de Vigo, and an historian, Antonio Sabelico. Gomara was never in the West Indies, and as he wrote this as late as 1553, his testimony, second-hand moreover as it is, gives little additional weight to Oviedo's.

"With respect to the Indian disease of the *Matlazahuatl*, the most complete and copious account is to be found in Humboldt's *Nouvelle Espagne*, tom. i., p. 333, and iv., p. 162, 2d edition. I will take the liberty to refer you to his philosophic pages, as the work is, I believe, very accessible, and doubtless you will prefer the original to a bald translation of mine.

"In conclusion, I must thank you for the number of your Journal which you were so kind as to send me. Had I ever received it or your letter, I should not have neglected to reply to you.

"With great respect, I am, my dear sir,
"Your obedient servant,
"Wm. H. Prescott.

"Samuel Forry, Esq."

Confirmatory of these views, we will now give the additional evidence of Washington Irving, Esq., whose researches relative to the early discoverers of America, must, as in the case of Mr. Prescott, have made him acquainted with many circumstances not accessible to the public; and which, as regards the unsettled question in the history of medicine here presented, may afford a satisfactory solution. For this correspondence, we are indebted to the kindness of John Watson, M.D.

"*New York, Feb.* 1, 1844.

"Dear Sir,—I mentioned to you some months ago, in speaking on the history of the Venereal disease, that I have formerly had the subject under consideration; and that I had a promise from Washington Irving, Esq., to pursue the inquiry as to the American origin of this disease, among the original documents of Columbus and his companions. Since then, I have ascertained nothing further on the subject; but as you express a wish to be possessed of our correspondence, I herewith send you a copy of it.

"Yours, &c.,
"Jno. Watson.

"Dr. S. Forry."

Leaving out Dr. W.'s letter to Mr. Irving, we here present the note of the latter, written just on the point of his departure as Minister to Spain:

"*New York, March* 22, 1842.

"Dear Sir,—In the hurry of various occupations preparatory to my departure, I find that I have your note of March 12th lying unanswered. I have not now time to refer to papers and documents to refresh my memory on the subject of your inquiry. I recollect, however, that my impression was, while writing the History of Columbus, that the disease you mention did not exist among the natives of America at the time of the discovery, nor among the voyagers during the first voyages; but that it originated in Europe. When I have leisure, I will look into the matter in Madrid; and should I discover any facts upon the subject, I will communicate them to you.

"Very respectfully, &c.,
"Washington Irving.

"Dr. Jno. Watson."

In reference to the Indian epidemic, termed *matlazahuatl*, adverted to above by Mr. Prescott, we will here present the following description by Humboldt, as given in his "*Essai Politique sur le Royaume de la Nouvelle-Espagne*:"

"Le *matlazahuatl*, maladie particulière à la race Indienne, ne paroît presque se montrer que de siècle en siècle; il a surtout sévi en 1545, en 1576 et en 1736: les auteurs Espagnols le nomment une peste. L'épidémie la plus récente ayant eu lieu à une époque où, dans la capitale même, la médecine n'étoit pas considérée comme une science, nous manquons de renseignemens exacts sur le *matlazahuatl*. Il a sans doute quelque analogie avec la fièvre jaune ou avec le vomissement noir; mais il n'attaque pas les hommes blancs, soit Européens, soit descendans des indigènes. Les individus de la race du Caucase ne paroissent pas exposés à ce typhus mortel, tandis que, d'un autre côté, la fièvre jaune ou le vomissement noir n'attaque que très-rarement les Indiens Mexicains. Le site principal du *vomito prieto* est la région maritime, dont le climat est excessivement chaud et humide. Le *matlazahuatl*, au contraire, porte l'épouvante et la mort jusque dans l'intérieur du pays, sur le plateau central, aux régions les plus froides et les plus arides du royaume."—Vol. i., p. 352.

It appears that this disease prevailed periodically in Mexico, a long time before the arrival of Europeans upon our shores; but, as Humboldt remarks, so little has medicine been cultivated as a science in that country, ay in the capital itself, even at as late a period as its last visitation, 1762, that we now actually have no exact description of the *matlazahuatl.* Torquemada hazards the opinion that, in the two epidemics of this plague, the one in the year 1545, and the other in 1576, there died, in the former 800,000, and in the latter 2,000,000 Indians; but this conclusion, when we reflect upon the difficulty with which such estimates are made even at the present day, as, for example, the mortality caused by epidemic cholera, it is obvious must have been based upon data not very exact.

In the above extract, Humboldt says that this Indian epidemic had some analogy with yellow fever, or the *black vomit;* but, at the same time, he clearly establishes their distinctness. He gives several characteristics by which these two diseases are essentially distinguished. The *matlazahuatl* attacks only the descendents of the natives, while these same Mexican Indians are very rarely attacked by the *vomito prieto*, or the yellow fever. On the other hand, while the latter disease is restricted to the hot and humid atmosphere of the coast, the former spreads terror and death in the interior of the country, upon the central plateau, and in regions the most cold and the most arid. "It is true," says Humboldt, "that the Indians of the valley of Mexico, which, in 1761, perished by thousands, victims to the *matlazahuatl*, vomited blood by the nose and the mouth; but this hæmatemesis presents itself frequently under the tropics, as an accompaniment of bilious ataxique fevers."

History also informs us, as a matter of tradition, that the Atlantic regions of the United States, before the arrival of the Europeans, were, from time to time, desolated by what was called a *plague*. This occurred in 1535 and in 1612, among the Indians of Canada and New England. Upon this point, the following reference is made by Humboldt:

"*Stubbins Ffirth on Malignant Fever*, 1804, p. 12. Gookin rapporte le fait remarquable que, dans la *peste* qui régnoit, en 1612, parmi les Pawkunnawhutts, près de New-Plymouth, les Indiens malades avoient *la peau teinte en jaune.*" —*Nouvelle-Espagne*, vol. iv., p. 484.

This disease was supposed by Dr. Rush to be identical with yellow fever; but Humboldt thinks it not improbable that it was the true *matlazahuatl.* He also thinks it quite probable that it was this same pestilence which, in the eleventh century, compelled the Toltèques to continue their migration toward the south. It is known to have made great ravages among the native Mexicans in 1545, 1576, 1736, 1737, 1761, and 1762.

Lest it may be thought, in view of our last two numbers, that we are affected with a *cacoëthes scribendi* upon the subject of yellow fever, it may not be amiss to mention here that Mr. Prescott's allusion to the *matlazahuatl* was due to a suggestion made by Dr. Hosack, who believes in the African origin of the yellow fever—its importation under the name of the *Bulam fever*. Now, as this involves a long-contested point, we shall, with due deference to the opinion of our valued friend, inquire into its merits as connected with the present subject.

No country is willing to father a terrible disease; and this we find illustrated in Mr. Prescott's letter, in the fact that the Venereal disease was first called by the Italians the *French* disease, while the French styled it the *Italian* disease; but soon all the European nations compromised the matter, by giving it an American origin. So in the case of yellow fever, we find our own city tracing it to the West India Islands; and these again to Africa. Our own belief is, that wherever it prevails epidemically, there are to be found its local causes combined with those of a general nature. As regards the *vomissement noir* of Vera Cruz, we fully agree with Humboldt in the opinion contained in the following extract from his " *Nouvelle-Espagne:*"

> " ' La Vera-Cruz n'a reçu le germe de cette cruelle maladie ni de Siam, ni de l'Afrique, ni des îles Antilles, ni de Carthagène des Indes, ni des Etats-Unis: ce germe a été produit (*engendrado*) dans son territoire même; il y existe sans cesse, mais il ne se développe que sous l'influence de certaines circonstances climatiques.' *Comoto*, dans son *Informe al prior del consulado de Vera-Cruz, del mes de junio*, 1803. (Manuscrit.)"—Vol. iv., p 550.

Behold, here we find the black vomit of Vera Cruz traced for its origin to our own Atlantic cities!

It may be thought that, if yellow fever is not of foreign origin, we ought to have accounts of its ravages among the early Spanish settlers. It does not, however, necessarily follow that the epoch of the first description of a disease is also the epoch of its first appearance; but, even upon the admission of its non-existence for one or two centuries after the discovery, no difficulty is presented in the way of explanation. The following rational view of this question is taken by Humboldt: In the sixteenth and seventeenth centuries, the mortality ought to have been the least; first, because, at this period, the equinoctial regions of America were visited by Spanish and Portuguese only, who, as they are the most southern nations of Europe, would be less liable, constitutionally, to the evil effects of an excessively hot climate, than the English and other inhabitants of northern Europe; secondly, because, in the islands of Cuba, Jamaica, and St. Domingo, the first colonies were not congregated in towns as populous as those which were subsequently built; and thirdly, because, on the discovery of continental America, the Spaniards, who were little attracted by commerce to its shores, which are generally hot and humid, preferred an interior residence upon the elevated plateau, characterized by a temperature analogous to that of their native country. Besides, it is an admitted law that, in the course of ages, the germs of a disease before unknown may be developed under a new concurrence of circumstances; but it is unnecessary to resort to this supposition, as there are no means of proving that yellow fever has not existed in tropical America from time immemorial.

At Vera Cruz is beautifully illustrated the effect of elevation, as equivalent to latitude; and here, too, are we taught the true nature of yellow fever, which, unlike all contagious diseases, or even the *matlazahuatl*, is strictly confined to the locality of its origin.

> " The admirable order," says Humboldt, " with which different tribes of vegetables rise above another by strata, as it were, is nowhere more perceptible than in ascending from the port of Vera Cruz to the table-land of Perote. We see there the physiognomy of the country, the aspect of the sky, the form of plants, the figures of animals, the manners of the inhabitants, and the kind of cultivation followed by them, assume a different appearance at every step of our progress. As we ascend, nature appears gradually less animated, the beauty of

the vegetable forms diminishes, the shoots become less succulent, and the flowers less colored. The sight of the Mexican oak quiets the alarms of a traveller newly-landed at Vera Cruz. Its presence demonstrates to him that he has left behind him the zone so justly dreaded by the people of the north, under which the yellow fever exercises its ravages in New Spain. This inferior limit of oaks warns the colonist who inhabits the central table-land, how far he may descend toward the coast without dread of the mortal disease of the *vomito.*"

Thus, in a few hours, may the naturalist ascend the whole scale of vegetation, which, as foreign to our subject, is not here detailed; while the European escapes in much less time from the fatal *vomissement noir*. Even the Creoles, who inhabit the elevated table-land, where the mean temperature is about 60°, and the thermometer sometimes sinks below the freezing point, suffer, when they descend the eastern declivity of the Cordillera, being thus plunged at once into the hot and deleterious atmosphere of Vera Cruz, even more than European strangers who approach it gradually by sea.

As Baron Humboldt viewed the subject of yellow fever with the eye of a philosopher, uninfluenced by any preconceived opinions, his conclusions are entitled to much weight; and hence we are unable to pass over the following paragraph, without presenting it to the reader in *totidem verbis*, but simply rendered into English:

"It is incontestible that the *vomito* is not contagious at Vera Cruz. In most countries, people regard as contagious, diseases which have not this character; but in Mexico, popular opinion does not interdict the approach of a non-acclimated stranger to the bed of a patient attacked with the *vomito*. No fact is ever cited which renders it probable that immediate contact, or the breath of the dying, is dangerous to nurses who are not acclimated. Upon the continent of equinoctial America, yellow fever is not more contagious than are the intermittent fevers of Europe."

In making the present researches, we have accidentally fallen upon an interesting fact relative to the history of vaccination. In 1520, variola, according to Humboldt, was introduced into Mexico, by a negro, the slave of Narvaez; and, from this period, it exercised its ravages throughout that extensive region, at regular intervals of 17 or 18 years; and notwithstanding European vessels frequently introduced the virus anew subsequently, it never became epidemic, except at these very marked intervals of time. The cow-pox was introduced into this country, in January, 1804; and as the Indians were accustomed to inoculation, it encountered no obstacles in its general use. Committees of vaccination (*juntas centrales*) were immediately formed to prevent the extinction of the virus; but it was, fortunately, soon found on the Mexican cows. In 1802, however, during the prevalence of a violent variolous epidemic, it was accidentally discovered that the prophylactic virtues of the vaccine virus had been long previously known in the Peruvian Andes. According to Humboldt, a negro slave had been inoculated in the house of the Marquis of Valleumbroso; but, as the specific effects did not follow, the operation was being repeated, when the man declared that he was sure that he should never have the small-pox, because in milking the cows, he had contracted a cutaneous disease, which, according to the old Indian herdsmen, was caused by contact with certain pustules sometimes found on the dugs of cows. Those having had this eruption, said the negro, never take the small-pox.

Art. II.—*Extirpation of a Tumor of the Parotid; with Observations upon the Pathology of that Gland.* By Alex. E. Hosack, M.D., of New York.

(*With a colored Lithograph.*)

Early in November, 1843, I was consulted by Isabella St. John, a colored woman, *æt.* 38, on account of a swelling directly under the ear and behind the angle of the lower jaw, on the left side of the face. Of a robust and good constitution, she had always enjoyed excellent health. Her occupation is that of a laundress. The tumor resembled, in its noduled surface, a Nova Scotia potato, a medium-sized one of which it also rivalled in dimensions. It was quite firm and evidently contained a fluid. Although the fluctuation could not be very distinctly detected throughout, yet it was very readily to be discerned in one of the prominences. The statement she gave me of her case, was as follows: About six years since, when under the influence of an emetic and while in the act of vomiting, she felt something give way behind the angle of the jaw; and upon raising her hand to the part, she discovered a small hard lump directly under the ear. It was tender, but not painful. From that time, its growth was very gradual until it attained the size of a small pullet's egg, when it remained stationary; and as she experienced very little inconvenience from it, it was allowed to remain undisturbed. About twelve months before its removal, it began to enlarge; and it continued to grow rapidly, but was unattended with pain. There was no appearance of swelling in the fauces, nor was the jaw in the least impeded in its motion. The point at which fluctuation was most discernible, when pressed upon, readily yielded to the finger; but upon increasing the pressure, a resisting substance was perceived, in which a small aperture existed; and through this the fluid receded, but reappeared immediately upon the discontinuance of the pressure. The whole tumor was rendered more prominent and tense, upon opening the mouth, in consequence probably of its being pressed outwardly by the angle of the jaw. Not being able to come to a definite conclusion as to the true character of the disease, I determined to make a small valvular opening to ascertain the nature of its contents. This revealed about a table-spoonful of a thin, amber-colored fluid of the consistency of the serum of the blood. During its flow, the color was twice suddenly changed to that of dark black, and it as suddenly returned to its original hue. There was no disposition in them to unite, the two having no affinity, as both remained separate and distinct in the cup in which they were received. The black matter was much darker than the darkest blood found in the veins of bodies, that have been some time in the dissecting room—a fact that will be more fully adverted to in the sequel.

I will, therefore, proceed to describe the operation, which was done on the 16th December, about ten days after the above examination, assisted by my friends, Drs. J. K. Rodgers, Wilkes, Minturn Post, and Van Rensselaer, and in presence also of several pupils.

The patient being placed in a chair, an incision was commenced behind the conch of the ear, which was extended quite down over the tumor, terminating in the sound structure of the neck. A second incision was begun directly below the lobe of the ear, and carried over and below the tumor, where it joined the first. Upon detaching the integument on either side, and exposing the surface of the tumor, the prominence before alluded to presented a very black appearance, in all respects resembling that of melanosis. Progressing with the dissection on the side toward the face, I very soon came upon the anterior portion of the parotid gland, which, from its great vascularity and granulated structure, was immediately recognized; but it was found to be so intimately blended with the tumor as to leave no doubt that this gland was the seat of the disease. After having detached the integument on the opposite side of the tumor, I proceeded with great caution, making my way beneath it in search of the external carotid artery, which was distinctly felt pulsating directly within the digastric muscle; and finding this vessel to enter into, or at least to adhere to, the diseased mass, I determined to secure it at this point. I consequently placed two ligatures upon it, and divided it in the interspace. In consequence of the tumor being much reduced by the discharge of the fluid through the small opening made into it, it could readily be drawn in various directions, which greatly facilitated the remaining and most dangerous part of the operation. The diseased mass was now grasped with a double hook, and pulled downward and outward, while I dissected on, carefully advancing toward the extremity of the conical point of the inward extension of the parotid gland. It was at this point that the carotid artery was imbedded in the substance of the tumor, but which was not to be seen or felt until the diseased part was insulated, with the exception of the extremity above alluded to. By thus cautiously advancing step by step, I was enabled to complete the dissection; leaving the part connected with the carotid artery to be severed by the last stroke of the knife; and on the detachment of which, the vessel being wounded was immediately secured. The amount of blood lost during the operation did not exceed twenty-five ounces, although there were many important vessels divided; as, for instance, the posterior auris, and several branches of the temporal. The parotidean vein, from its great enlargement, was the cause of considerable embarrassment in the early part of the operation; but it was speedily secured by a ligature, and then divided. The number of vessels tied in all did not exceed fifteen. The portio dura of the seventh pair of nerves was also divided during the operation, as well as its branches, which were severed, in separating the tumor from its anterior connection with that portion of the gland resting upon the face; and which last portion, in concurrence with the gentlemen present, it was deemed not advisable to remove, as it was to all appearances perfectly sound. Upon inspecting the wound after the extirpation of the tumor, not a vestige of the gland (save the part just indicated), or of any diseased structure, could be discerned. The two orifices of the divided carotid artery with ligatures upon them, were to be seen pulsating at the bottom. The styloid muscles, as well as the anterior belly of the digastric, were exposed. The wound being cleansed, and all hemorrhage ceasing, the parts were brought together by the ordinary suture, sustained by adhesive straps. From this time, the patient continued to do well; the ligatures came away in the usual period, when the wound speedily healed. She has since perfectly recovered her strength, and she now enjoys excellent health. Immediately after the operation, I examined the removed mass, and found that the sack in front was quite firm and resisting, but of the ordinary thickness usually met with in encysted tumors about the neck. The posterior portion was very much enlarged; and upon being cut into, it presented a dense white structure of a scirrhous hardness, to the thickness of about from one half to three-quarters of an inch. This portion of the tumor had occupied the greatest depth of the wound, and it was found to be firmly adherent to the external carotid artery for a considerable extent. The internal surface of the tumor presented an unusual appearance. The different concavities of the sack seemed to be irregularly lined with a pseudo-membranous formation of a very black color. By reference to the drawing, figs. 1 and 2, it will be observed that the black structure is much darker than a tissue would be, engorged with blood, or even where blood may have been deposited upon its surface.

This black substance appeared to be distinct and unconnected with the sack, otherwise than by contact or very slight adhesions. It could readily be scraped off, or separated by the handle of the knife; but it was not disturbed at the time, as I was desirous of preserving the tumor with all its peculiarities. I did not, however, succeed in doing so, as this adventitious substance became broken up during the process of maceration. Upon pouring off the macerating fluid from time to time, this dark matter was found at the bottom of the vessel, resembling the finer particles of the grounds of coffee.

From these circumstances considered in connection with the fact of the tarry-like matter being discharged alternately with the amber-colored fluid, and their not mingling when the puncture was made in exploring the disease, I am induced to conclude, that the black matter thus observed was melanosis in a semi-fluid state. The tumor may, therefore, be regarded as partaking of a three-fold character; first, the primary disease, that of an ordinary encysted tumor, having its origin within the substance of the parotid, or in a lymphatic gland imbedded in its structure. Secondly, that of scirrhus; and, thirdly, the adventitious formation of melanotic matter. The combination of these three distinctly marked diseases, is a circumstance I have never before met with, nor am I aware of any description of it by any surgical writers, either in this country or in Europe. Encysted tumors are never associated with scirrhus; for they are distinct in their character, and occur under different circumstances. No mention is made by the different writers of its being concomitant with other diseases, except that of cancer. I must, therefore, conclude that the combination of these three diseases is a circumstance of very rare occurrence.

As this latter disease, melanosis, is here presented in a form different from that usually met with, I feel the necessity of offering a few observations upon it, particularly as its true character is generally but little understood. We have no knowledge of its cause, nor are we aware of any means by which it can be cured. It occurs at any period of life, and in any temperament, attacking the most robust as well as the most feeble constitutions; and it is very generally fatal. Under these circumstances it is that every fact or peculiarity in appearance attending this disease, is deserving of special notice. The peculiar black matter has been frequently analysed by the French chemists, but nothing of importance has resulted from their investigations, further than that the dark coloring matter is carbon derived from the blood, and that it also contains fibrine, albumen, etc. According to Mérat, melanosis is divided into three classes. In the second, he describes it thus: "It is found," he says, "in very fine layers, extended over serous membranes, assuming an appearance of a glossy black color, similar to Indian ink, or to that black secretion found in the cuttle-fish." He goes on to state that he has seen it lining the whole peritoneum. MM. Andral and Brechet are quoted by Prof. John C. Warren as also having seen a liquid melanosis in the cavity of the peritoneum; and M. Brechet further states, that he has seen it in some of the secretions. It is spoken of also by several writers,* as occasionally found in a fluid state in the lymphatic glands, when diseased. Many more instances, were it deemed necessary, might be here adduced in illustration. For further information, the curious reader is referred to the authorities just cited.

The operation of removing the parotid gland has been so frequently performed by surgeons on both sides of the Atlantic, that a detailed account of them here is unnecessary. The parotid gland is the seat of two diseases occurring within itself, and for which extirpation has usually been resorted to. The first is a mere hypertrophy, without any change of structure, but which, according to Sabatier, subsequently may become malignant. The second is that of scirrhus. It is, however, very often removed, when it is consecutively involved in disease originating either in the lymphatic glands or adjacent cellular structure. Among the many cases published, in which the parotid has been extirpated, we find that, in most of them, the gland was secondarily affected; and from this it may be inferred that scirrhus is comparatively of rare occurrence. Scirrhus is now justly considered a species of cancer;† but it is not as malignant when it appears in the parotid gland, as in some other parts of the body. It very often remains stationary for years, and is for the most part of a local character. In its progress, it sometimes assumes the form of an encephaloid cancer, with ulceration on its surface, which ulceration differs from that usually found in cancer located in other conglomerate glands, as for instance in a cancerous mamma, where the sore extends itself in the manner of exfoliation or sloughs on different parts of the surface; while in that of the parotid gland, the parts appear to be destroyed by the process of suppuration. With this view, then, of the disease, as well as in consideration of the highly vascular endowment of this gland, the operation of tying the common carotid artery for its cure, suggested itself to me; and this I have practised in several instances with entire success.‡ The operation of placing a ligature on the carotid artery is not very painful or dangerous in itself; and if not successful in causing an atrophy of the tumor, it cannot in any way interfere with its removal afterwards by the knife. Moreover, the patient may thus be saved the danger of a very severe and uncertain operation; for when it returns after an attempt to remove it, it occupies the same position, and, unlike cancerous affections elsewhere, the viscera of the chest and abdomen never become subsequently affected, as is too frequently the case when the breast is the seat of the disease. Such, at least, is the result of my own observation.

The extirpation of the parotid gland is now become one of frequent occurrence, comparatively. It was performed in the United States as early as 1804, by the father of Prof. J. C. Warren, of Boston;§ and in 1808 by Dr. Samuel White, of Hudson; and since then by Drs. McClellan, Randolph, and Prof. Gibson, of Philadelphia, by Drs. Mott, Parker, and Bush, of New York, and by Dr. N. R. Smith of Baltimore.

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* Chomel; Dupuytren, Anatomie Pathologique; Archives de Médicine, tom. v.; Dictionnaire de Sciences Medicales; Laennec de l'Auscultation Médiate; Dictionnaire de Médicine, 1841; Surgical Observations on Tumors, by Prof. Warren.

† See Muller, Warren's Walshe, and others. ‡ See cases in N.Y. Lancet, Vol. ii., p. 74.

§ See page 287 of Warren's Surgical Observations on Tumors.

Art. III.—*Pyretological Inquiries. Part 3d. What are the nature and the cause of Fever?* By Wm. C. Roberts, M.D., Physician to the Northern Dispensary.

(*Continued from our last Number.*)

The subordinate questions which must be replied to, before the above problem can be solved, are three. 1st. Is fever always an *essential disease:* are the inflammatory, or local lesions which accompany it merely secondary complications, or are they its point of departure, its exciting causes? 2dly. If it is essential, to what is its development owing? 3dly. Does the same cause which effects the development of essential fever, give rise to the typhoid symptoms observed in the progress of certain other maladies, or is their accession due to some other agency? Let us consult the authorities upon the subject. "Fevers appear to us," says Andral, "to be properly considered as a *general* affection, having equally their seats in the solids and liquids, and susceptible, during their course, *of complication with different local lesions.* We think, with Bordeu, that malignant fevers may be regarded as the blending together of several conjunct maladies. It is very common to find lesions in the digestive tube, but their intensity is very far from being always in proportion to the gravity of the symptoms. Even when considerable, although they sometimes seem to be justly regarded as the *punctum saliens* of the disease, at others they seem to be developed only during its course, and then appear to be only complications. In slight fevers, the point of departure is not always an irritation of the digestive passages. Several organs seem affected together, and it is not possible to determine which the starting point is. In more malignant forms, the same multiplicity of lesions is found. In them, as in slight fevers, the symptoms of the gastro-intestinal inflammations are sometimes very little marked during the course of the disease; sometimes they only appear at an advanced period; at other times they cease to show themselves, while the ataxo-adynamic symptoms still exist in all their intensity. The phenomena offered by continued fevers cannot all be explained by the existence of a gastro-enteritis." And again: "admitting that *simple,* or *follicular* enteritis is the commencement of a great number of fevers, can everything be explained by it? We never thought it could, and it has always appeared to us that those fevers never became severe, except in consequence of *a disturbance which supervenes in the innervation and hæmatosis.* This disturbance, which gives rise to the phenomena called adynamic or ataxic fevers, or in other words to the typhoid state (*Typhus, Aut.*), may be the result of several lesions of different nature and seat. 1st, gastro-intestinal inflammations give rise to it much more frequently than disease of any other organs. Of these inflammations, some are directed against the intestinal follicles, which become tumefied and ulcerate; others consist merely in a simple inflammation of the mucous membrane itself. Other organs, however, though less frequently than the digestive tube, may become the occasion of that profound disturbance of the innervation and hæmatosis, which constitutes the adynamic or ataxic fevers of Pinel. Such are phlebitis, pneumonia, erysipelas, etc., *or, the ataxo-adynamic fever may result from some alteration of the blood,* whether occurring spontaneously, or following the introduction of some deleterious agent. Then the disease is everywhere, where blood and nerves are to be found, and in every part, lesions may occur which perform but *a secondary part* in the production of the symptoms." "Suppose a case of gastritis resulting from the ingestion of tartarized antimony, in which the symptoms are fairly typhoid. Is this typhoid fever? It is *not*, in the order and succession of the symptoms, that pyrexia which has for its anatomical character inflammation of Peyer's glands; but, with respect to the nature of the symptoms, it is a disease of the same family. It is a gastritis, in the course of which typhoid symptoms have become developed." We particularly beg of our reader to notice, that in the passages now quoted, we have affirmed by Andral, 1st, the Essentiality of Fevers: 2dly, their production by an external cause which affects the innervation and the hæmatosis (contagion); 3dly, their origination from the introduction of a deleterious agent into the blood; and, 4thly, the supervention of typhoid symptoms from certain causes, in the course of a primitive phlegmasia, which then becomes, not a typhoid fever, but a typhoid inflammation. These last are precisely the three modes in which the production of typhoid phenomena may be accounted for, as will hereafter be more fully expressed. An inaccuracy in language, which was noticed on p. 26 of the last number of this Journal, is here again perceptible: it consists in saying that "the phenomena called adynamic or ataxic fevers, may be the *result* of several different lesions." Believing, as Andral does, that in those fevers, these are the secondary consequences of a primitive disturbance in the nervous system and the blood, it is evident that the phrase quoted fails to express correctly his real meaning. This will appear from a consideration of the following passage from the Clinique. "If it is impossible to establish any relation between the intensity of the lesions and the severity of the symptoms, is it not reasonable to think that the different lesions which anatomy discovers in the digestive tube of patients who die during the course of a bad fever, *are not the cause of it?* Should it not be laid down, that the adynamic or ataxic phenomena depend *much less in these cases*, solely on the nature and intensity of the intestinal lesions, than *on the disposition in which these lesions*, slight or severe, *find the innervation?* If now, these different phenomena called adynamic or ataxic are observed in cases where, on opening the body, we find the digestive tube healthy, and other organs the seats of lesion, will not the proposition now stated, be found singularly confirmed by such facts, and shall we not be warranted in saying that the symptoms called adynamic or ataxic, *are the results of a disturbance in the action of the nervous centres; a disturbance sometimes primary, and which may then exist without a lesion appreciable on opening the body*, but most frequently consecutive; and then developed in consequence of the lesion of some organ of the digestive tube, as of any other?" Now, if "the different lesions discovered, &c.," be not the cause of the fever, they must be secondary to it, and it cannot be said, at least in *all* cases, to "result" from them, although, in the concluding sentence, Andral appears still to believe that in *some* instances this may be the case. But this will be seen to be doubtful. "Of these," to continue the quotation, "there are two classes; in some, the typhoid symptoms *coincide* with lesions of different organs, which may be considered as their origin, or, at least, the occasion of their development (language again of dubious propriety); in the others, these lesions themselves no longer exist, and it is to a primary, but as yet indeterminate alteration of the nervous centres, and of the blood, that the symptoms should be referred." (Fevers strictly *essential.* Auth.) In the Essay on Pathological Hæmatology, recently published by this author, we find him separating, in the most formal manner, the pyrexiæ from the phlegmasiæ; pronouncing them in all respects as "*maladies apart*," and impossible to be confounded; in which the analysis of the blood offers a most remarkable distinctive difference. Such alterations, he asserts, as can sometimes, nay often be established, are the *effects of a hidden cause* which controls the organism, and causes certain symptoms. The blood in typhoid cases is diminished in fibrine, and tends to a sort of dissolution. Of the typhoid, putrid, ataxic, or adynamic state, the greatest development is seen in typhus proper; the pyrexia, now called "typhoid," presents it in a feeble degree at its invasion, *and* "*severe cases are especially the representation of it.*" It does not ordinarily exist in, but may complicate, the exanthemata, (and, we may add, other, as inflammatory diseases.) In all, when so characterized, a common alteration of the blood exists, whether primarily or secondarily induced. In the first of these, "*the specific cause*" so acts upon the blood, as to tend to destroy the spontaneously coagulating matter. When intense, its action begins early; it is a true *intoxication*."

Chomel observes: "that the gravity of the lesion is not in proportion to that of the symptoms. Lesions of the follicles differ in degree, number, and condition. Now, if all the symptoms and gravity of the disease depended on lesion of the follicles, there ought to be a proportion between the lesions and symptoms, number and origin of the alterations. In some cases, the severest symptoms concur with the smallest number of diseased follicles; in others, the most serious lesions with symptoms of mediocre intensity." "Inflammation," he continues, "is secondary, when observation leads us to admit that in the subject affected, there exists a morbid condition, of which this inflammation is the consequence. It is primitive, when *it alone* constitutes the disease; of this, ophthalmia, idiopathic and intermittent, furnishes an example. The one form requires the usual antiphlogistic treatment. The other, developed under the influence of a particular cause, is cured by antiperiodic remedies." If then, let us observe in passing, dothinenterite always depend on a particular cause (infection), and as it *alone* does not constitute typhoid fever, it must, according to this, be *always secondary.* Chomel continues: "the lesions in typhoid fever are disseminated. Between them, the tissues are often healthy. This is a characteristic of various lesions of the skin, which, nevertheless, present very remarkable differences. Disseminated inflammations cannot be produced by the general causes of inflammation, nor does treatment influence them. Thus, scarlatina is not abridged by venesection, nor zona prolonged by tonics; each has a particular appropriate mode of termination. Some, as urticaria, terminate instantaneously, others are indefinite, and this, because *special causes* preside over their development. They are secondary; the cutaneous inflammation is only a phenomenon. They are only the expression of a morbid state or diathesis. Now, if such be the case, everything tends to the belief that inflammation of the intestinal follicles, if for no other reason than that they are disseminated, *is only one of the secondary phenomena of the disease called typhoid fever, and does not constitute the primitive one*, or the point of departure of the symptoms. If to these considerations furnished by analogy, we add the want of proportion between the gravity of the lesions and that of the symptoms, *remembering that the special lesion is sometimes* *wanting*, it becomes still more evident that this inflammation is only one of the phenomena of the disease, and that it belongs, like most disseminated inflammations, to the secondary phlegmasiæ, and may be compared in this respect with the bubo of the plague." We commend most earnestly this argument to the especial consideration of the reader; it is, so far as we know, original, and is highly ingenious, if it be not unanswerable. It powerfully supports the idea of the analogy of typhus to the exanthemata, to which we shall hereafter allude. "If now," continues this able author, "the follicular inflammation is secondary, what is the cause of the malady? What the primitive lesion which presides over the development of this inflammation, and of all the other symptoms, and constitutes the essence of the malady?

"In the actual state of science, when no appreciable lesion can be discovered, or when those which do exist seem insufficient to explain the gravity of the symptoms, one is generally led to admit a concealed alteration somewhere, whether in the nervous system, or animal fluids. I should incline to the latter opinion, owing to the analogy which exists between typhus and other maladies in which there is manifest alteration of the fluids, as small-pox, measles, and, above all, contagious typhus. At present the contagiousness of the typhoid affection is uncertain. Were it to be established, it would only further corroborate the opinion, and offer an easy explanation of the reason why it occurs but once in the same subject, the want of proportion between the symptoms and the lesion, the absence of lesions, when none are discoverable, and the impotence of treatment."

"It cannot, however," says Dr. Tweedie, reverting now to the opinions of British pathologists, "be conceded, that in every form of fever, the local disease (follicular enteritis) does exist, as it has not been universally, nor even in the majority of instances, discovered on the most minute examination of the intestines in fatal cases. The more probable inference is, that this gastro-enteritis, or follicular disease, occurs only occasionally, and is much more common in some places than in others. Whether, when found, it is the cause or effect of the febrile symptoms by which it is accompanied, is still a question about which there is great diversity of opinion, though the majority of British physicians regard the intestinal lesions as only sequelæ of fever; fever being, then, an *essential disease*, the symptoms being independent of primary organic lesions, though, in the greater number of cases, local inflammation becomes developed in the course of the disease." "It seems difficult," says Christison, "for any one to survey dispassionately the whole facts, without coming to the conclusion that fever is *essentially a primary disease*, and that most, nay, possibly all of the local diseases which have been pointed out as the real source of it, *are nothing else but secondary affections.* In a great proportion of instances, when local inflammation does occur in fevers, it is *secondary in point of time.* It does not occur till the fever is fully developed, and often, not for a very long period. Hence, local inflammations are least frequent, as reason would lead us to infer, when fever runs a short course. There is something in the disease independent of local disorder. In Edinburgh, dothinenteritis is comparatively rare, but occasionally occurs, and is invariably secondary in point of time." "The local lesions," he says again, "are proved to be secondary, because they are sometimes all wanting; because they seldom make their appearance till the fever has subsisted for several days, and because they both appear and disappear without the course of the fever being thereby materially altered in any essential symptom." It is but just, however, to state that these opinions are wholly at variance with those of M. Louis, who maintains that "in all who died between the eighth and twelfth days, the first symptoms were connected with a lesion of the intestinal canal." But when we remember that M. Louis is describing the fever of Paris; is incorrect in asserting the constancy of the intestinal lesion in *all* cases of typhoid fever; when we find him contradicting himself in other parts of his book, by the statements that "the symptoms at first are not peculiar to any disease," that the "diagnosis is sometimes indeterminate for a greater or less length of time," and "that the predominance of some symptoms changed more or less the usual appearance of the disease in some cases, so as to give them the appearance of putrid, adynamic, ataxic, or inflammatory fever," and lastly, that "the changes in the patches begin with the first symptoms *in at least half the cases*," we cannot, it appears to us, attach great importance to this sweeping assertion. It is not to be supposed, however, from what precedes, that Mons. Louis, like Broussais, attributes to his "plaques," the origin of his typhoid affection. By the latter he is evidently ranked as an ontologist,*

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* "The plates depend on the entity typhus; they are symptomatic, and one of its effects, having the privilege of constituting its anatomical characteristic, to the prejudice of all other lesions. Thus they produce the fever, and are produced by it." (Brouss. Ex. des doct., 2d Part, Par. 1836, chap. 4, p. 85. Critique on the Typhoid affect. of M. Louis.) If the sentiments expressed in the first of the above sentences are truly those of M. Louis, they coincide exactly with the best supported theory of the day. Able, however, as M. Louis's work certainly is, it is not without its inconsistencies, and the quibble contained in it, respecting the differences between enteritis proper and inflammation of the follicles, participated in by Chomel, is unworthy of him, and has received an ample exposure at the hands of Broussais, in the work above cited, and of Bouillaud. (See particularly Dict. de Med. et Chir. Prat. Art. 'Typhoide.') Nor has the caustic, energetic, and able, but prejudiced Broussais, overlooked other weak points in the production, as the following extracts will show. How far they may be considered as refutations, we must leave it to the profession to decide.

"M. Louis is sure of nothing, unless it be that the plates of the ileum alone explain the groupes of the symptoms of typhus. But explain—how? Thus, no explanation: simultaneousness of existence between the plates and the symptoms, between the symptoms and the plates; this is all I have been able to distinguish." "M. L. perceives all at once, that none of the symptoms is absolutely indispensable to its existence, and that he must have recourse to the order of their succession." "Eh bien! where would you believe that he has found the proof of the existence of the morbid plates of the ileum? In the stupor, somnolence, delirium, the elliptical and pink spots of the skin, and the sudamina, or miliary eruptions. Here, at least, is something positive. Beware, nevertheless, not to rejoice too soon. Learn from M. L. himself that there are simulated typhoid affections." "We must have pink lenticular spots (*which are not, according to him, indispensable*) and epistaxes (*which are wanting in more than half the cases*), to attest the existence of the typhoid plates (of Peyer). In short, all the symptoms which form the group of typhus *may be wanting*, if we examine them one after the other, to assure ourselves of those which are essential. Per contra, all the organic alterations which it is usual to find after these diseases, may equally be wanting, except the plates." "The plates may be affected in most other acute maladies, as they are in typhus, particularly in pneumonia; it is M. Louis himself who takes great pains to prove this. The plates may exist without either fever, or any of the symptoms called nervous." (Ex., p. 92.) "All this is not sufficient for M. Louis. He undertakes to prove that the morbid plates of the small intestine alone explain the phenomena of typhus, and as he meets with typhus in *which these plates do not exist*, is reduced to refuse to them the name of gastro-enteritis, without being able to substitute another, &c." (95.) "Not being and he himself tells us that *the cause of the typhoid affection is unknown and wrapped in the greatest obscurity*.

Dr. Copland, after combating at length, in his extraordinary work, the inflammatory theory of fever (Dict., Part III., p. 913), states it as his opinion, that "the lesions met with in the disease (typhus), are to be considered as contingent phenomena, depending more upon the functional disorder, and consequent changes in the fluids and general organization, than upon the more palpable lesions of structure." "By attention," says Dr. Alison, "to certain particulars in the history of many febrile disorders, independently even of the results of practice, we are authorized to conclude that they may be distinguished from the effects of simple inflammation, and belong to the class of what we shall call for the present, Idiopathic fevers, and that the *onus probandi* rests with those who would attempt to assimilate them to, or resolve them into, the acknowledged effects of inflammation." (Outlines, p. 395.)* "The term Idiopathic," he elsewhere observes, "is to be understood as expressing the belief of an essential distinction existing between these fevers, and those which were formerly described as resulting from local inflammation, at the same time that there is a strong similarity, or coincidence, in many respects, of essential symptoms." (P. 437.) Again: "Whatever be the mode of action by which the morbific cause in Idiopathic fever comes to affect the circulation (system), it is to the direct action of this cause, and not to the influence of any local diseased action, excited in the body,

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able to base his *entity* either on the plates, which exist in a crowd of other maladies, nor on the nervous symptoms, which belong to all the great phlegmasiæ capable of upsetting the influence of the encephalon, M. Louis finds himself, in several places in his book, in an anguish which is almost capable of causing us to pardon his errors. He takes the desperate part of establishing the characters of his entity on the concurrence of phenomena, whether cadaveric or vital, and on their succession in a determinate order. This method is truly the height of medical ontology." (98.) "Does he wish to prove that the plates form the only anatomical character of the typhoid entity; he says that, although they are common to a host of acute and chronic diseases, they are *more* common in typhus, and concludes that they form its only essential anatomical character." "If the stomach offers serious lesions, he supposes them consecutive to the plates when they exist; if there are none, the disease loses the name of typhus. If the intestine be not furnished with plates, it loses it equally, and thus the author is never taken unawares." "Thus it is in phenomena, *which may fail, and are not positive when they exist* (the state of the spleen, the epistaxis, the lenticular spots and sudamina), that our author, repelled on all sides in his search after specific characters, places his entire confidence, *after having confessed that all the symptoms of typhus may exist without lesion of Peyer's plates, and that they may be diseased without the existence of a single symptom of typhus.*" (P. 110.) "The lenticular spots, and epistaxis, are not more frequent in enteritis than in any other acute malady. If they are common to so many acute maladies, why assign to them so distinguished a rank among the signs of typhus? If the sudamina are 'very rare in enteritis,' they may be met with in it, and cease thus to be a characteristic of typhus?" (115.) "All is finesse, calculation in the writings of Dr. L." (P. 120.)

We have made these quotations, though marked by some acerbity, because they will really be found to be mostly very just, and bear upon the disputed question of the separate nature of the typhoid affection, as compared with typhus. We might also inquire how M. Louis reconciles his assertion that "the lesion of the elliptical plates cannot be considered as one of the effects of fever" with his statement, that its "cause is unknown?" It is but proper, however, to say that M. Louis has published an "Examination" of the "Examen" of Broussais, which we have not seen.

* The reader will find the subject of the distinctive differences between fever and inflammation alluded to on pages 398 and 407, and particularly considered in extenso at Sect. 4, p. 430. See also Copland, loc. cit., and Southwood Smith, Treat. on Fever.

that we must ascribe the characteristic phenomena of Idiopathic, and especially of Typhoid fever." (442.) With one further quotation we dismiss the authorities relating to the nature of fever. "The nature of all these maladies," says Roche (Dict. de Med. et Ch. Prat., vol. xv., Art. Typhus), "resides in the blood. In them are none of those circumscribed lesions confined to a single organ, as are seen in most other maladies; but, on the contrary, multiplied disorders extended to several organs, and which attest the influence of *a morbific agent* distributed throughout the whole economy by the same passages."*

The conclusions to be drawn from what has now preceded, may be recapitulated as follows. 1st. In fevers, local lesions are sometimes absent. 2d. When present, they are oftenest secondary in point of time, and disproportionate in their gravity to the severity of the symptoms. 3d. The follicular inflammation of the intestines bears a strong analogy to the disseminated inflammations, which are always effects of a *materies morbi*, and not causes of fever. 4th. This lesion, which appears to be that *most frequently met with* in the bodies of those who die of typhoid fevers, does not occur in every case of the disease, nor can those cases with which it does coincide, be distinguished, by any essential symptom, from those in which it does not exist: and on these accounts, it cannot be considered to be, any more than any other local lesion, in whatsoever organ occurring, the cause, or point of departure of the febrile symptoms, but rather an effect, like them, of a morbific cause acting upon the entire economy. 5th. Other forms of muco-enteritis, occurring in connection with idiopathic fever, present similar symptoms to those of dothinenteritis, none of which are constant in the latter affection. 6th. Ataxo-adynamic symptoms result from the introduction into the blood, of poisonous agents, or are superinduced in the course of diseases not primitively idiopathically febrile (as the phlegmasiæ and exanthemata), from causes, either *ab interno* or *ab externo*, which affect the innervation or the blood. In the latter event, the typhoid symptoms are secondary: whereas in true typhus, it is upon the primary influence of the morbific agent on the economy, that the phenomena, physiological and pathological, depend. 7th. Typhus and typhoid fever are induced and propagated by contagion, wherein it differs from the symptomatic fevers, and is assimilated to those which depend upon a specific cause. 8th. The appearance or disappearance of the symptoms of local lesions, in the course of typhous fevers, does not essentially modify that course, and in those fevers which run the shortest course, the fewest lesions are found. 9th. Idiopathic fevers cannot be confounded, on many accounts, with inflammations, nor resolved into their mere effects. Influenced by such of the considerations to be drawn from the preceding pages, as are here enumerated, and others not contained in this recapitulation, equally to be drawn from them, we are necessarily, as it seems to us, led to conclude that *true* TYPHOUS *Fever* is, in its *nature*, an *essential disease*, and that all the morbid lesions which are so frequently met with in it, are sequelæ, the consequences and not the causes of its development, and that the *cause* of fever is a morbific agent which acts as a poison upon either the nervous centres or the blood. And thus we reply to the query proposed in the second part of our Pyretological Inquiries.

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* Gaspard and Magendie, by injecting putrid substances into the veins of animals, induced in them all the symptoms of bad typhus, *and found that, in case of death, they exhibited, on dissection, local lesions corresponding with those we meet with in the human subject in fever* (inflammation and ulceration of the muc. memb. of the digestive tube, &c) (Stokes, Clin. Lec., p. 329.) "The putrid matter produced that morbid state of the whole system which is called *fever*, and the local inflammation was the result of that state." Local disease, besides being of itself sufficient to cause death, re-acts on the system, and prevents a critical termination; hence, the necessity for its detection and removal. In the latest treatise on General Pathology which has appeared (Prin. of Med., by C. J. B. Williams. Amer. Ed., p. 385), it is stated that "the very universality of the affection (typhoid fever), seems itself to point to some cause more general than can be found in any individual function; *and such a cause may be found in the blood.* The causes which appear thus *primarily* to affect the blood, are chiefly endemic, epidemic and infectious influences, called poisons" (386). "The similar, but less marked series of febrile movements which occur *in slight forms of continued fevers*, are instances of the operation of vital reaction attempting the expulsion of the noxious matter;" "individual organs may especially suffer in different cases;" and "the follicular inflammation and ulceration of the intestines in fever, may arise from the excessive irritation of the follicles (by the continued operation of the poison—note, p 220), in the exercise of this eliminating function." (P. 386–7.) In the note cited, he says: "The favorable influence of moderate diarrhœa in fever, the uncommon fetor of the stools, the general relation between the duration of the fever and the affection of the follicles, the salutary operation of mild mercurial remedies, which promote their secretions, and other facts which might be adduced, give so much countenance to this question, as to make it worthy of attention" The reader will observe in these passages, the perfect coincidence of opinion with those expressed throughout this essay. In this able work, however, all separate notice of the subject of essential fever is omitted!

But we have alluded only very generally to the *cause* of fever, while as to its nature, we have entered into detail. Without pretending to elaborate this vast, comprehensive, and, we might almost say, incomprehensible theme, which includes the whole subject of contagion, and would of itself require volumes for its exhaustion, we may with propriety briefly notice some of the points connected with the inquiry, if only as a guide to future investigation. Let us cite a few authorities, first as to what it is that causes fever, and secondly, as to how that something acts, and deduce thence a few corollaries, which, if not strictly accurate, may serve as a foundation on which the reader may build a better theory of his own. We begin with "An inquiry into the sources and mode of action of the Poison of Fever," by Alf. Hudson, M.B. "We regard," says he, "the essential disease termed fever, as the effect of the action on the living body of a morbid poison—in other words—of one of that peculiar class of substances which are generated during certain processes of decomposition, and which act upon the animal economy as deadly poisons." His first chapter is "of the infectious animal poison generated in the living human body, and capable of producing fever when applied to healthy bodies." He considers the proof that "the disease has arisen from exposure to the emanations from the bodies of those similarly affected," to be abundantly proved from the experience of the large fever hospitals of Great Britain; in which view, Tweedie, Alison, Christison, and Davidson, and in the fullest manner, Southwood Smith, concur. He acknowledges the importation of fever both by person and fomites: the latter being "among the most unquestionable sources of fever." He considers "a deficient and improper diet," and "anxiety and depression of spirits," as probably the essential causes of the generation of the poison, and "a want of fresh air," and "want of cleanliness, and chiefly a want of a proper renewal and change of clothes," to assist in producing its accumulation. The second chapter is "of a fever, generated during the decomposition of dead organic matters," which are either animal or vegetable, or a mixture of both. This miasm, Dr. H. calls "paludal," and is independent of the infection of true typhus. It is admitted, he says, by S. Smith, Christison, Cheyne, and others. This point is ably considered in extenso, and would appear to differ from the malaria on which remittent and intermittent fevers depend, not typhoid, since they are not mentioned in the chapter. There can be no doubt that this essay is able and ingenious, but as the author has nowhere distinctly stated his own conclusions, they are left to be inferred with difficulty, from the great amount of matter which it contains. Among the sources of this paludal miasm we find enumerated, the effluvia emanating from putrefying bodies; choked sewers; the leaky soil-pipe of a privy: from water-closets insufficiently supplied with water; the overflowing of a kitchen with a filthy fluid; dry streams, and putrefying vegetables.* But the most remarkable statement made by Dr. H. is this: that the fever so produced is not infectious. It is hence inferred *to differ from true typhus:* and he adds, "but in the kind of fever now under consideration (the paludal), there is a local affection generally considered as inflammatory, which is so constantly present, etc., (dothinenteritis)," and that this lesion is sometimes found so far advanced at an early period of fever, "that it cannot be regarded as a secondary phenomenon." His paper favors the idea that this paludal typhoid fever differs from typhus, and he quotes Stewart, and Dr. Gerhard, of Philadelphia, with approbation. To a consideration of these views we shall hereafter return. The Essay of Dr. Davidson, on "the sources and mode of propagation of the continued fevers of Great Britain and Ireland," is, perhaps, as a whole, superior as to research, to that of Dr. Hudson, but of questionable authority. Dr. D. asserts that typhus is propagated by contagion, and proves it in the fullest manner by an extensive analysis of the writings of Barker and Cheyne, Tweedie, and others. Considering it with him as fully established, we shall not enter into a consideration of the arguments he employs to prove that the opinion of the anti-contagionists, viz., that a peculiar malaria, generated in hospitals, &c., in which the contagion is said to have occurred, propagates the disease, is untenable, referring the reader to the essay itself for conviction. But Dr. Davidson maintains, and he founds his argument upon the analogy between typhus and the exanthemata, that the former disease can be propagated by only one cause, namely, contagion. This Dr. Hudson denies, and, as it appears to us, very justly, for we have seen that typhus may be engendered *de novo* under the influence of moral and physical causes. (Vide Law. Dub. Med. Jour., vol. xiv.) We see in this dispute, the necessity for precision of language; for contagion may well be the only mode of the *propagation* of fever after it is engendered, although it be not invariably its sole exciting cause, though this is not probably the idea which Dr. Davidson intends to convey. On the "Analogy of Typhus to the Exanthematous fevers," which he supports in the fullest manner, and in which Drs. Hudson, Perry, Peebles, &c., concur, his paper is most explicit. Dr. D. next considers the "alleged" sources of continued fevers from putrid effluvia, the exhalations of the human body, of jail fever from filth and impure air, and river malaria, to all of which, influenced by preconceived theory, and opposed, as we think, to positive evidence to the contrary, he denies any agency. The prominent circumstances which favor the diffusion of contagious continued fever, are four: 1st. Humidity of atmosphere. 2d. Poverty, famine, and food of bad quality. 3d. An accumulation of persons not previously affected; and 4th. Filth and deficient ventilation; the two last of which, if combined, would, in our judgment, undoubtedly suffice for its engenderment. There are also some circumstances, which we omit, which tend to render fevers communicable from one person to another (i. e., strictly contagious); but upon all the points now enumerated, the reader will find the essay an invaluable work of reference. Lastly, in the concluding part, the identity between British typhus and French dothinenterite is ably asserted and sustained. "The typhoid symptoms," says Alison, "may always be held to imply the action on the system of some cause distinct from mere local inflammation." "In Idiopathic Fever, not only is a diseased action excited throughout the system, similar to that which local inflammation can excite, but the system is at the same time under the influence of a cause which acts on it after the manner of a poison, which we know from the history of the disease, to be probably engendered occasionally *within the system itself*, but to be most frequently absorbed from without." Dr. Alison is further of opinion that malaria and contagion are both causes of epidemic malignant fever. He is a strong supporter of the contagion of typhus (witness his excellent essay on the subject in the Ed. Med. & S. Jour., vol. 28), but thinks that it may originate occasionally from some circumstances of more general and permanent existence. Which is the most probable, is not established; but perhaps long-continued mental depression and anxiety have been assigned with more plausibility than any cause, for its *spontaneous* generation, it being then propagated by contagion. "The miasm," says Cruveilhier, "is absorbed by the lungs, is carried into the torrent of the circulation and infects the blood. Sometimes it acts directly—sometimes it needs a certain period of incubation." "The causes," says Roche, "which produce the intermittent of marshes, typhus, yellow fever, plague, and the Asiatic cholera-morbus, are substances in the state of vapor, or of gas, absorbable and deleterious, which introduce themselves into the economy, chiefly by the respiratory passages. They are, then, poisons, since they act like the bodies to which that name is given." "Physiological experiment demonstrates that all substances injected into the veins, or absorbed by different surfaces, if they do not exert a chemical action on the blood, pass in nature into this fluid, impregnate in nature all the organs, and are eliminated in nature by the pulmonary and cutaneous transpirations, and by the way of the intestinal and urinary secretions." The preceding quotations will enable us to deduce, hereafter, the conclusions to which it seems necessary to come in the present state of our knowledge, as to the question, what it is that causes fever? which we have necessarily examined in the most cursory manner. Let us next inquire, How does that something act in producing that effect? Without pretending to enter fully into the consideration of this question, it may be stated that the opinions of the majority of physicians of the present day are divided, as to the theory of fever, into two parties; the solidists and the humoralists; the first believing that the *materies morbi* acts primarily upon the brain and nervous system, the latter, upon the blood. Among the first may be ranked Christison, Marsh, Law, Southwood Smith, Copland, and perhaps, for he does not speak decidedly, Alison. Among the latter are Tweedie, Cruveilhier, Andral, Chomel, Roche, Gerhard, Hudson, &c. In the Outlines of Pathology, by Dr. Alison, and in the paper cited, by Dr. Hudson, the reader will find an ample consideration of the subject under review. To the work of the latter we especially refer him · the sentiments of Andral and Chomel may be gleaned from our preceding pages.*

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* "There is now abundant evidence that drains, cesspools, and other repositories for offal and putrefying organic matters, evolve exhalations which, when concentrated, may generate low fevers; and when more diluted, may considerably impair the health of those exposed to them." (Prin. of Med. by Williams, Am. edit., 1844, p. 75.) It is to be regretted, as adding to the confusion which already exists on these subjects, that the able editor of this work, in the admirable notes with which he has everywhere enriched it, should say that the application of the term "miasm, or malaria," is arbitrary, and that "to speak of miasm as an *effluvium* or *emanation* is pure hypothesis." and that it is an "imaginary essence or abstraction." (Note on p. 75.) It does not follow, "with any show of common logic," that we are to deny the "existence" of that of "whose distinctive properties we are entirely ignorant." Can it with truth be said that "miasm does not express the idea of anything appreciable by our senses?" On a following page we find him saying, "the air, under these circumstances, is contaminated by effluvia and emanations which deteriorate," &c. This is a contradiction in terms. But we will not pursue the subject.

We shall content ourselves with a few notices of the opinions expressed only by those who advocate the humoral origin of fever, as to do as much with those of writers on the opposite side of the question, would occupy a space which is not at our disposal. Let us state the question in the words of Alison: "It may be questioned whether the effect on the nervous system essential to fever, is produced directly by the external cause of fever, or whether that cause first works a change on the blood, and through its intervention, affects the brain and nerves." (Lib. cit., p. 438.) It might further be questioned, how, in either event, the inflammation of particular organs was effected; to this point we may hereafter allude. "The miasm," says Cruveilhier, "absorbed by the lungs, is carried into the torrent of the circulation, and infects the blood." "It is sufficiently demonstrated," says Roche, "from what precedes, that the nature of typhus consists in an infection of the blood. This promptly gives birth to congestions at first, and then to inflammations in the principal organs, and especially in the gastro-intestinal mucous membrane, in the meninges and brain, then in the lungs, liver, and, lastly, the pleura." Dr. Tweedie says, "whether the opinion of the older writers, that in fevers originating from contagion, the contagious principle alters the properties of the blood, be correct or not, we certainly think the strong analogy in the cases alluded to, tends to confirm the supposition of typhoid fevers originating in diseased blood." (Cyclop. Fever.) After having discussed the principal arguments for the nervous theory, derived from the mode of access (Marsh. Law), Dr. Hudson proceeds to submit (p. 120, Amer. edit. Philada. 1841) some of those which tend to support a "modified humoral theory," and first examines those derived from the fact that the sources of fever have the power to kill the blood at once, when their poison is introduced into it in sufficient quantity; next alludes to the fact of its occasional latency in the system, in which it resembles other morbid poisons; 2dly, its being a *cumulative poison*, of which the proofs are abundant, and tend to show a gradual deterioration of the vital fluid, from which at length fever ensues; 3dly, the reproduction of the poison of contagion, a fact not dreamt of in the philosophy of the solidists, and where their analogy is at fault, for the poisons from whose action it is, according to them, derived, are not reproduced. "Neither will any supposable impression upon the nervous system, explain the continued reproduction of the same febrile phenomena, and the same miasm through an indefinite series of individuals." The fever produced by a strong mental impression, though reconcileable still with the humoral theory, is not reproduced. Dr. H. quotes Liebig's analogy of "the mode of action of a morbid virus, with the action of yeast upon liquids containing sugar and gluten" (the influence in either case depending on the same cause), as the analogy which the humoral theory has for the reproduction of the poison; but this is too long for insertion. He then continues, after an attempt at a rationale of the action of the causes of fever in accordance with its principles; "assuming then that the primary action of the febrile poison is upon the blood, there can be but one *essential cause* of fever, viz., *The introduction of that poison into that fluid*." How its activity will be determined, increased, diminished, modified, combined, under the influence of exciting and predisposing causes, and the dose of the poison, though ably set forth by the author, the general character of this part of our essay does not allow us to inquire. The arguments for the foregoing theory of fever being obviously much strengthened by our being able to show that the phenomena of typhus entitle it to a place among special contagions, Dr. H. enters into a thorough investigation of a fact now very generally admitted, viz., its resemblance to and classification with the exanthemata. To this interesting topic of inquiry, we can do no more than allude. We have already mentioned the views of Dr. Hudson, relating to the paludal miasmatic origin of typhoid fever, which he seems to consider as identical with dothinenteritis, and different from true typhus, and not contagious. The view here taken is of very questionable correctness, but we shall not now examine it. Let us follow him, however, in some of his objections to the nervous theory of the action of the cause of fever. In allusion to the remark of Dr. S. Smith, that "changes in the fluids can only be second in the series of morbid events," Dr. H. observes: "We rather think that the evidence existing on the subject, if fairly examined, points to the blood as the seat of the primary operations of the morbific agent, and the subject of the changes which it is a part of its condition necessarily to produce." "Instead of Dr. Smith's formula of the order of successive derangements in fever, the more correct one will probably be, first, the molecular change in the blood, then the suspension or modification of the interstitial processes (suggested by Dr. Hodgkin), or change of particles, then certain derangemonts of innervation, of the heart's action, and the result, formed fever." "The pathological changes (of spleen, liver, and heart, inflammation of the brain and thoracic viscera), as well as the derangement of function constituting *fever*, will probably best be explained by some such hypothesis as that advanced by Dr. Hodgkin, which supposes the febrile state to depend upon a suspension, or, at least, very considerable interruption of that process by which, during health, the various parts of the system are continually undergoing a change, the old materials being renewed, while others are substituted in their place, which is perfectly in accordance with the hypothesis of the action of a morbid poison on the blood." For the proofs of these various assertions, we must refer to the original work, our object being solely to put the reader in possession of the views entertained on both sides of the question, while leaving him to decide for himself upon the merits of either theory. Respecting the origin of the dothinenteritis in this form of fever, Dr. H. considers it "not as an effect of the fever, or of the state of the nervous and circulating systems produced by the fever, but as the direct effect of the poison itself; a consequence of the effort made by the excretory organs, more especially the liver, to rid the system of the poison which has been introduced into the blood, the inflammation of the follicles resulting from the irritating effects of the acrid and depraved biliary secretion." "This view," he says (a strictly hypothetical one, although supported by the generally acknowledged idea of the eliminative effect in fever, by which the morbific principle is directed toward the great emunctories of the economy), "of the relations of dothinenteritis to the action of the septic poison, differs both from that which regards it as the cause of fever, and from that which assigns to it merely a secondary place in this affection." "*It is one of the phenomena* of the second stage in the action of the poison: *its occurrence cannot be considered as essential to typhoid fever*," "a concurrence and contingent effect of the poison; most of the other pathological changes being capable of explanation by the alterations in the constitution of the blood." If this be true with respect to dothinenteritis, why, we may reasonably ask, does Dr. Hudson incline to the belief of a difference between his paludal typhoid and typhus fever, founded upon, *inter alias*, a difference in the pathology of the diseases; this dothinenteritis being, according to him, "a constant and a most important complication in the kind of fever under consideration (paludal), if indeed it be not the pathological cause of the disease?" (P. 163.) We have here assigned, one cause for the production of the local affection called follicular enteritis, by the morbific cause of fever. We scarcely know whether the following citation from Cruveilhier, may be said to offer another. "The centrifugal, or reactive movement arrives: heat and development of the pulse occur: it is at this moment that the *miasmatic cause* is directed upon such or such organ, now upon the isolated or agminated follicles, when follicular enteritis ensues, now upon the mucous membrane of the large intestine, and we have diarrhœa or dysentery. At other times, the miasmatic cause is directed on the lungs or brain; sometimes it exhausts itself upon a single organ, sometimes is carried, simultaneously, or successively, upon several, for there are such medical constitutions; and individual varieties, varieties of influences of every sort, in the midst of which typhus is developed, explain the innumerable differences which different epidemics present." According to Southwood Smith, "the condition of the nervous system which produces the derangement in the circle of organs, occasions further in that portion of the circulating system which consists of the capillary blood-vessels, that peculiar state which constitutes inflammation; hence, inflammation is almost always established in one or more of the organs comprehended in the febrile circle, and sometimes in all of them." Here, then, are two of the modes in which the poison of fever has been supposed to produce the local inflammations which so constantly attend upon that disease, and another which assigns a particular cause for that inflammatory lesion denominated dothinenterite.

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* Perhaps no wiser conclusion can be come to on this much disputed point, than that of Stokes (Clinical Lectures). "The humoralists erred by fixing its seat in the fluids, the solidists by limiting its locality to the solids. We recognize no distinction between the fluids and solids so far as fever is concerned; they all form parts of the great whole: one cannot act without the other, but their mutual reaction is extensive and various. Fever, in its origin, implies no tangible condition of the system, and we know it only as consisting of a group of phenomena, varying as to their cause, seat, effect and duration."

"If," says Dr. Hudson, in reference to the view we have quoted from Smith, "dothinenterite were a consequence of disordered circulation, depending on an impression on the brain and spinal chord, we might expect to meet it in other cases in which these organs are engaged, as typhus; but we do not." Now, if the view which we have taken of the identity of the London typhus with dothinenterite, in many respects at least, as shown by Tweedie, Smith, Bright, and Roupell; of Scotch typhus by Alison and Christison; of Irish typhus by Stokes, be correct, Dr. H. is surely not justified in making this unqualified assertion, and is guilty of the common error of medical theorists, that of perverting fact in the support of hypothesis. We refer to the works of these authors, in proof of the assertion of Stokes relatively to the typhus of Ireland, that "the fact is, that intestinal ulcerations have been repeatedly observed" in the typhus of Great Britain.* The reader can scarcely be unacquainted with the magnificent plates of the condition of the intestines in fever, contained in Dr. Bright's Medical Reports, which offer alone sufficient testimony to the truth of this assertion. In what, then, consists the difference, in these cases of what their authors designate typhus, between them and dothinenteritis in the sense of the typhoid affection, except in the severity of the symptoms and of the lesions themselves? How the cause of fever produces local inflammation, we must agree with Alison, is a question which, in spite of all that has been said, remains obscure. With one quotation more, from the author last named, which we find we have omitted, we dismiss the subject. "There is nothing inconsistent with what is known of the action of poisons on the animal economy, in supposing that the morbific cause of fever, after existing some time, and perhaps multiplying itself in the fluids, may act simultaneously on the constitution of the blood, *on the vital affinities of the capillary vessels*, on the powers of the heart, and vital action of the brain and nerves."

We shall next say a very few words only on the subject of the contagion of fever. "Contagion," says Prof. Joseph M. Smith (in his Elements of the Etiology and Philosophy of Epidemics, 1824—a work which is equally distinguished for elegance of style, extent of erudition, and a highly philosophical spirit, and the production of a gentleman who holds, deservedly, the highest position in his profession, both as a teacher and practitioner), "is a poison generated by morbid animal secretions, possessing the power of inducing a like morbid action in healthy bodies, whereby it is reproduced and indefinitely multiplied." To this definition Rochoux adds, "*whatever be, moreover, the primitive origin of this principle*, the conditions which render its impregnation more or less easy, the ways by which it occurs, and the manner in which it is effected." (Dict. de Med. Par. 1834, tome 8, Contagion.) "Infection," says Prof. Smith, "is a febrific agent, produced by the decomposition of animal and vegetable substances, usually existing in a state of gas or miasm."†

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* Hodgkin. Lects. on Morbid Anat. of the Serous and Mucous Memb. Lond. 1843. Vol. ii., p. 481. "Although the lesions of the aggregated glands have been detected in most of the fatal cases of fever which I have examined, I have seen others in which, so far from being deranged, they have been barely discernible." Dothinenteritis then, in Dr. H.'s experience, has been a frequent but not a constant lesion, in the fevers of London.

† Dr. Williams (Prin. of Med.) regards infection and contagion as synonymous and

There is yet another mode in which epidemic diseases originate, viz., in the vicissitudes of temperature, moisture, and occult atmospheric influences, to which the same learned author has attached the term *meteoratious;* but we do not find typhus included under this head in his classification. Neither in that classification do we find typhus classed under the head of contagious diseases, but under that of infectious; while measles, scarlatina, and whooping-cough are considered as contagious. Now, neither these nor typhus can be considered as strictly contagious, in the sense that itch, syphilis, and vaccinia, are, but equally appear to depend upon the exhalation from the body, of the peculiar virus, or contagion, to use Dr. Smith's definition, which produces the like disease in the healthy, and seem to us equally deserving the epithet contagious. It is in this sense that typhus is said and universally admitted to be a contagious disease.

But typhus is also an infectious disease, having many times a primary origin independent of excreted effluvium from the bodies of those who labor under it; it being, as we think, abundantly proved to occur, as stated by Prof. Smith, from the "excretions of the (healthy) human body in unventilated" or crowded apartments, assisted by "an unwholesome and deficient alimentation, vicissitudes of weather," filth, and the influence of strong and depressing mental impressions. This species of miasm being *personal*, was called by Dr. Ed. Miller, idio-miasma, and by Dr. Smith, according to the degree of its intensity, *per* and *protidiomiasma.* That such miasms are the *primitive* sources of typhus, can scarcely be doubted, for to be reproduced it must first be produced; nor will the fact that typhus is a contagio-infectious malady, as it appears to us, admit of any more dispute. A typhus breaking out under circumstances favorable to the production of common or public miasma, as for example in a filthy jail, situated in a malarious locality, or along the banks of a nearly dry, foul, and sluggish stream, would result in the production of a compound miasma, denominated idio-koino miasma; which, although it cannot be the primitive cause of the disease, would ultimately tend to impress upon it characters of a very high degree of malignity, and add to its violence, extension and fatality (malignant forms of compound fevers).

But if the contagious nature of typhus is universally admitted, it is not so with that form of disease to which the term "typhoid affection," used in the sense of dothinenteritis, is applied. Bretonneau and Gendron consider it eminently so. By Andral, Bouillaud, Rochoux, and Hudson, this is denied, and by Chomel only conditionally admitted. Were this proved to be correct, it would seem at first sight to give great countenance to the idea of those who desire to form of the two affections, maladies radically dissimilar. Chomel observes: "the opinions adopted by most French physicians, that the typhoid affection is *not* contagious, cannot be considered as demonstrated. If contagious, it is feebly so, and under circumstances as yet ill demonstrated." Andral, on the other hand, says:—"We confidently assert that in Paris, either in the hospitals or

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convertible terms. This error is ably exposed, and the true meaning of either term explained by Dr. Bell in a valuable note (p. 80, Am ed.) Dr. W. suggests the possibility of the parasitic nature of contagion, in which he evidently believes, as also in the infectio-contagious nature of typhus, and the *specific* nature of the causes of fever. We also find Dr. Bell asserting the origin of typhus from contagion proper (81), and its being a product of infection (82).

out of them, we never recognize in this disease the slightest appearance of a contagious character. If the affection were contagious, medical students who nurse their sick friends at home, with the greatest assiduity, in small and close apartments (many of whom contract it in the course of their studies), would almost all contract it; and yet we do not remember to have seen the disease even once arise in this way, in a healthy individual." "Individuals who are attacked with it," says Bouillaud, "constitute to a certain point a focus of infection for the persons who surround them. But from this to contagion, such as exists in small-pox for example, there is a whole heaven of difference. No person has been known, attacked with a true typhoid fever, to communicate it to another; and supposing even that an individual fell sick only from having been in contact with another person attacked with typhus, it is infinitely probable that the disease he would contract would be something else than an alteration of the plates of Peyer. But no well-observed fact justifies this hypothesis even. In the twenty years during which this question has been studied at Paris, thousands of patients and thousands of students have been placed in contact, an infinite number of times, with persons laboring under typhoid fever, and never has a case of contagion been met with."

We perceive that in the passage now quoted, Bouillaud establishes the difference between contagion and infection, and very properly, for the difference is great. If, however, the nurse of a dothinenteritic patient, confined in a close apartment, the air of which must of necessity be more or less vitiated, did contract from him the typhoid affection, a morbid cause producing a like morbid effect, it would be difficult to deny or to disprove that that person did contract the disease by contagion. As to there resulting diseases of a different nature, as dysentery for example, such instances, though rare, cannot be denied to have happened, and are instances of infection. "The circumstances," says Hudson, "accompanying exposure to one kind of poison, instead of acting as accessories to the action of that poison, may cause the immediate action of another *previously latent.* This is the only reasonable way of explaining the cases of irregular contagion, which Marsh and others relate, of typhus received from small-pox, scarlatina from typhus, and typhus from puerperal fever."

Dr. Hudson, as we have before stated, enters into a lengthened examination of authorities to show the non-contagiousness of dothinenteritis, which he considers to be of endemical (infectious) origin, and differing in its nature from typhus; while, at the same time, he acknowledges that the follicular inflammation is not the cause of the disease, but only a secondary effect of the septic poison. He makes out a very strong case, which, if it could be finally proved, would go far towards establishing the non-identity of typhus and follicular enteritis. But, unfortunately for his argument, he says, on page 177 of the American edition of his paper, in speaking of the paludal fever as it occurred in the Navan Fever Hospital: "Thus, for the first three years, the prominent features were pain, tenderness and meteorism of the abdomen, diarrhœa, &c.; petechiæ were not frequent, and were late in their appearance, *and we had few instances of communication by contagion.* During the three years following, a highly contagious fever prevailed, &c." Now, if the dothinenteritis of the first period presented but *few* instances of contagion, *it did present some,* and if so, cannot be said to be invariably a non-contagious fever, distinct from contagious typhus, *though it may be feebly so*, owing, perhaps, to the peculiarity in the exciting miasm, its greater dilution, &c., and *this is probably the truth with regard to the affection in question*, and so far the identity with typhus is sustained, except that it is, in most cases, a disease of diminished severity, which is the view we originally took of the question. But were it proved never to be contagious, the supporters of the identity of the two forms of disease might yet intrench themselves behind the opinion of the able Christison, who asserts that "there is not a shadow of evidence to prove that actual contact is necessary for the transmission of any one febrile disease from the sick to the healthy, least of all certainly for the transmission of continued fevers, fever being infectious by miasm and effluvium," and proposes the term "communication" as a substitute for contagion. If this were to be admitted, the diseases would stand upon an equal footing. If by the words "actual contact," touch is meant, Dr. Christison must be acknowledged to be correct, and also that the general diffusion of the poison throughout the apartment, is a much more likely mode of communication than the atmosphere which immediately surrounds the body of the patient. Nevertheless, sudden, nay, instantaneous impressions have been received from the bodies of typhoid patients by what has amounted almost to actual contact, as when stooping down to examine the petechial spots upon their bodies; suddenly turning down their bed-clothes; in one instance, by an effluvium received by an individual while supporting a convalescent across the floor; in another, while examining the stools, in which, as Roche says, the morbific virus passes in nature, &c., whence we think that Dr. Christison's unqualified assertion must be received with some grains of allowance. Cases in which one person contracts from another typhus fever, say, for instance, by attending upon him during his illness, the virus in such a case arising from morbid animal secretion, and not from the decomposition of animal or vegetable matter, the morbid poison producing on a healthy body a like morbid effect, are, according to Dr. Smith's definition, and can be nothing else than, cases of contagion, by which, then, as well as by infection, which must be considered as the primary cause, typhus fever may be generated;* upon which grounds we differ with Dr. Christison, and prefer to the situation which Dr. Smith has assigned to typhus, in his Synopsis of the Remote Causes of Disease, that given it by Dr. Hosack, viz., Genus 2d, a contagious disease communicable both by contact and the atmosphere;" *ergo*, infectious, to which Dr. H. adds, communicable only through the medium of impure air.† We have not observed, in examining Dr. Smith's pages, that typhus is said to be developed under the influence of meteoration; but we were surprised, we confess, at meeting with the following passage, on page 31 of the Philos.: "In this manner, typhus produces typhus, and hence the erroneous conclusion, that the disease is propagated by means of a specific contagion." If Typhus produces Typhus, what is that but specific contagion? If infection is supposed as the cause, with what was the apartment infected but with the morbid excreta from the sick body, which produced a like morbid action on a healthy one? "This error," continues Prof. Smith, "respecting the contagious quality of typhus, is at once corrected by distinguishing secreted poisons from effluvia generated by foul excretions. But it is impossible that a man lying sick of typhus, should not secrete (*i. e.* produce) some of its specific morbid poison, and excrete it too; and if so, why may not such secreted and excreted poison be supposed to have some influence in producing the like morbid action, when it occurs, as well as the mere foul effluvia of the apartment, which may just as well produce some other disease?* May it not be that mild forms of fever, resulting from such exposure, are after all only cases of typhoid fever, in the strictest sense of the word; and that the dysentery which, according to Dr. Smith, page 65, the attendants about a *typhous* patient more frequently contract than they do typhus, and which, "when it arises from human effluvia, is always of the typhous character" (66); is merely typhus, of which the inflammation of the large intestine, like that of the small, is one of the secondary phenomena. Dr. Tweedie, whose work is acknowledged, even by Hudson, "to contain numerous cases of dothinenteritis," asserts, equally of these, as it should seem, that "he has no hesitation in stating, after an impartial inquiry into the subject and ample means of investigation, his decided conviction that fever is developed by contagion. Did none of his cases of typhus originate in the infection which Dr. Hudson supposes only to cause dothinenteritis? We can conscientiously say that we have twice seen the typhoid affection communicated; once by a man to his brother, who nursed him, both dying of the disease; once to a woman who had nursed a brother and sister recently arrived from Ireland, and affected with the ship-fever, and who also died with well-marked symptoms of muco-enteritis. We coincide with Roche in thinking that 'one fact does not destroy another,' and after one hundred thousand cases of plague, in which the disease shall not have been once communicated from one pest patient to another, let there happen a single instance in which the transmission is evident, and we are obliged to acknowledge that the plague is contagious, at least once in one hundred thousand times." "Now," he continues, "there are cases, much more numerous, in which it is impossible to explain otherwise than by contagion, the appearance of miasmatic diseases in certain localities, and among certain patients. Also do we generally admit the contagious property of plague and typhus, which offer the most striking evidences of it."

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* Once formed, it is propagated by contagion, each patient becoming a little focus of infection sufficiently energetic to communicate it to healthy individuals who approach him.—*Roche*, art. cit.

† We have the authority of Dr. Thomson (Lect. on Inf., 486) for this statement. "Typhus fever, small-pox, measles, whooping-cough, scarlatina, and hospital gangrene, are communicated, not only by actual contact, but also by the transmission of an effluvium from the fomes, or original source of infection, by the medium of the air. Some of these diseases are never generated *de novo;* others, again, as typhus, and probably hospital gangrene, seem capaple of being produced in certain circumstances where the individuals affected by them have not been exposed to infection (contagion rather). Thus, simple exposure to a close atmosphere, is sufficient for this purpose."

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* Six nurses in a receiving-ship infected with typhus, mentioned by Roupell, who returned home when off duty, took the disease, which again broke out in their houses on shore (previously healthy), the cases there presenting the symptoms and *characteristic* rash of the cases on board the vessel. Is this specific contagion, or is Prof. Smith correct in denying to typhus any such property? Such cases do not originate from the decomposition of *dead* animal and vegetable matter. They are not, therefore, infectious; neither are they meteoratious. Dr. S. does not allow them to be contagious; and where, then, are they to be placed? Possibly there may be *but one specific cause* for typhus (as for small-pox), however generated, which, eliminated by the excretions, is again diffused in the atmosphere, and being a *morbid* animal secretion, is "contagion." The poison produced by decomposing organic matters, animal, vegetable, or both, and that produced by over crowding, &c., may be the same, since it produces like effects; and once generated, it is propagated by contagion; ergo, it is *infectio-contagious.* The question at issue between Prof. Smith and ourselves, is, whether or not this specific virus exists in the excreta of the patient, and the analogy of all other contagious diseases is in favor of the supposition. (See the quotation from Roche, p. 170.) Is not such elimination the very object of the action which results from its absorption? And may we not define contagion to be "the exhalation from the bodies of *the sick*, of the morbid poison by which was induced in them the disease under which they are laboring? Lastly, the poison of small-pox, &c., is imbibed; existing in the blood, it may be multiplied there indefinitely, and escape with the excreted secretions of the patient. But what is the proof of its being *secreted?* By what apparatus is this to be effected? Now, if this view be correct, what becomes of the distinction which Prof. Smith has established between "*secreted* poisons and foul *excretions?*" Again: admitting that it is secreted, must it not escape with the excretions; and if so, are not these "foul excretions" charged with this specific virus, which, escaping from them, is again at liberty to exert its specific contagion? How else is small-pox contagious, which D. Smith allows? and why should not fevers also be contagious, which he denies? Is not the virus specific, and its modus operandi the same?

The same sensible writer, familiar with the fever of Paris, asserts its identity with typhus; "we see in them no difference, *save in the degree of the energy of the causes which produce either, and in the force of their symptomatic expression.* They are developed under the same influences." If so, both are contagious: both infectious. "If," continues Roche, "to this be objected that we sometimes see little epidemics of typhoid fever reign, which are far from having the gravity of larger epidemics of typhus, let us remark that the causes which give rise to typhus, though not differing from those of the typhoid fever, act nevertheless with much more energy, under favorable circumstances, and upon large masses of predisposed individuals; and then, consequently, the disease must take a graver character than it can, except with difficulty, assume in the midst of our population." Here we have one reason for the greater mildness of our ordinary typhoid fevers, than when the graver disease happens to prevail; upon the dose and peculiarities of the same miasm and the predisposition on the part of the recipient, the state, to use the language of Andral, in which the poison finds the innervation and the hæmatosis, and not, as Hudson would have it, upon peculiar miasmatic causes, will depend the varieties observed in different cases of fundamentally the same disease. Morbid poisons must be absorbed in a certain dose to produce their effects. The miasms excreted in the typhoid fevers are less in intensity and amount than those of typhus; they vitiate less the surrounding atmosphere; they are disseminated in a larger extent of less vitiated air, the dose is not sufficiently strong to reproduce the disease, but it is not the less, *under favorable circumstances,* contagious, and a mild typhoid may even cause a severe typhus fever. But a concourse of circumstances seldom met with, are necessary to enable the miasm to act out of certain narrow limits, and hence incontestable instances of contagion are rare out of focuses of infection. "Typhoid fever," says Roche, "is sporadic typhus; typhus fever is epidemic typhoid fever." It would be better, we think, to say that the typhoid fever is endemic typhus, and that sporadic typhus is usually, though not always, the milder typhoid form of fever. A few words as to these strictly sporadic cases of typhus, which are now and then met with. On what do they depend? Let us take, as an illustration, one which actually occurred within our own knowledge, in the person of a young gentleman twenty years of age, the son of wealthy parents, living in a splendid house, in one of our best streets, of correct deportment, having all the comforts and luxuries and none of the cares or anxieties of life, who died with typhoid fever and intestinal ulceration of the very worst form. Now here contagion could not have operated, nor the ordinary sources of infection. Did, then, the disease originate *ab interno*, from some moral impression, or from some functional derangement (not organic disease, as inflammation) inappreciable to the senses, but sufficient so to act on the blood and nervous system directly, as to induce the disease, or else to place the patient in a condition to be acted on by an infectious miasm existing in the atmosphere? for in one or other of these ways it must have occurred, since we know of no others. Is there such a miasm constantly existing in our atmosphere, which, like that of small-pox, measles, and scarlatina,* may act upon the organism at any moment, when predisposed by some cause, meteoratious or constitutional, to feel its influence? Judging from the analogy of the diseases just mentioned, the specific cause of which is ever existent, may we not admit the constant existence of such a morbific agent? On referring to the City Inspector's report for the year 1842, we find that of 214 cases of typhus, there occurred several in every month in the year, though less frequently in the months of June, July, August, September and December, than in others. We leave the explanation of these mysterious occurrences to the reflection of the reader, not knowing, ourselves, in what way else to explain them; but we have seen several such, and so must all our brethren, actively engaged in practice.†

We have had frequent occasion, in the preceding pages, to allude to the distinctive differences between Fever and Inflammation; in other words, between Idiopathic and Symptomatic Fever. How do the latter become typhoid in the course of their progress? "Suppose," says Andral, "a case of gastritis, from taking tartar emetic, in which the symptoms are fairly typhoid. Is this typhoid fever? It is not, *in the order and succession of the symptoms*." "Inflammation," says Chomel, is, when it alone (primitively) constitutes the disease." "In fevers," says Roche, "are none of those circumscribed lesions, confined to a single organ, as are seen in most other maladies." "Fever," says Southwood Smith, "is not inflammation, though in inflammation some of the phenomena are the same, *but the order in which they concur* is not the same, and this affords a clear and universally applicable mark of distinction between fever and inflammation. Invariableness of concurrence of a particular number of events, in a particular order, viz., 1st, derangement of the brain and nervous system, 2d, derangement of the circulating system (the humoralists reverse the sequence), 3d, derangement of the secreting and excreting functions, ending in morbid change, constitutes fever." Here we see what is meant by the abstract term, or, as Broussais would call it, the entity fever. It is the combination, in a particular order of sequence, of several phenomena constituting a morbid state which differs from primitive inflammation; and as this distinction is of indispensable necessity, and exists in nature, so the term fever, to express such a combination, is not only natural and indispensable in nosography, but of paramount importance in a practical point of view, and the objections made to it by Broussais are as ill-founded, as is the view which he has taken of its constantly symptomatic nature. "In inflammation," says Smith, in continuation, "the brain, &c., are not *first* affected, hence *the order of concurrence differs*, and inflammation therefore is not fever. Inflammation of the brain which becomes typhoid, offers an exception to this general law, but even here the typhoid symptoms are secondary in point of time, and thus, the order of concurrence becomes still the only and a satisfactory means of diagnosis."

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* Sir G. Blane relates that a man sickened on board of a ship at sea, long separated from intercourse with the land, with scarlatina. The children of the Foundling Hospital in London, who have no communication with the exterior, often contract both measles and small-pox, and a case of the latter occurred in an individual in solitary confinement in the Milbank Penitentiary, who did not receive the disease by contagion from without. Contagion may then, as Dr. Hosack has said, be effected through the medium of the atmosphere, without the necessity for actual contact, or the agency of fomites. (Hosack on Contagion. Am. Med. and Phil. Reg. Vol. 2d, and in Trans. of Lit. and Phil. Soc. Vol. 1, cited by Prof. Smith.) And if this be true of measles, small-pox, &c., why not of typhus?

† The same question is asked in the Art. Contagion in the Cyc. of Pract. Med. in reference to scarlatina.

To these considerations, let us only add that fevers have specific causes which inflammations have not, and that the analysis of the blood offers us distinctive differences. The points of diagnosis then are, 1st, the primitive occurrence of one or more local lesions, not arising from the specific causes of fever, as infection or contagion, but from sensible or epidemic meteoration (J. M. Smith), and 2dly, the order of succession, or concurrence of the typhoid symptoms, which are always secondary in point of time. Now in certain of the phlegmasiæ, as phlebitis, the typhoid phenomena result from the injurious effects of pus, circulating in the blood, upon that fluid, and secondarily, after the manner of injected poisons, upon the brain and nervous system. In other cases, the explanation of Alison may be admitted: "There are cases in which inflammation is fatal, by reason of some part of the effusions to which it gives rise, being mixed with the blood and acting on the footing of a poison." This includes other effusions than pus; and if we add "and secretions," we may include the typhoid phenomena which result from absorption of urea in certain affections of the kidney, &c. But in other cases, which cannot by either of these modes be accounted for, we have but two alternatives; the one to suppose the intercurrent or previous action of the typhoid miasm, which we have suggested constantly to exist latently in the atmosphere;* the other to admit that the continuance or degree of vascular action and nervous irritation, and the derangement of function, has at length caused "the blood and nervous centres to participate in the disease" (Andral); in other words, to experience that modification which produces the phenomena of the ataxo-adynamic state. The first of these views, though possible, and even probable, is as yet speculative; the second is universally admitted, but the *quo modo* it is not easy to assign. There are facts in the history of certain of the phlegmasiæ, when occurring epidemically, as influenza, which has a meteoratious, and Cholera Asiatica, which is of infectious origin; and dysentery, erysipelas, puerperal peritonitis, which appear to be also contagious, which show that like fevers, they must originate in specific causes, and tend to assimilate them most to the latter class of diseases, if indeed they be not typhoid fevers in disguise.* Continued and remittent fevers originally simple, which become typhoid, we suppose to have had an infectious origin, and to display in their latter stages, the influence or expression of the multiplied morbific cause, aggravated by the continuance of vascular and nervous irritation, upon the economy. If this be not so, the causes previously assigned must be resorted to, in order to explain them. "We do positively know that the mild forms of fever become severe, in consequence of the supervention of inflammation in certain organs." (S. Smith.) The dose of the poison may have been too feeble to act without, or latent until developed under the influence of fresh causes; such fevers are not typhus, though the exciting cause is perhaps the same, but become in their progress, typhous or typhoid, according to the severity of the symptoms, and toward the adynamic or ataxic state, all *true fevers* probably naturally tend; for to produce even slight fever, the morbific cause must have acted, in some degree at least, upon the innervation or the blood.

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* In this idea we are sustained by Roupell, who says, "We must look for some active special and specific virus. The germ of this disorder (typhus) will not be often wanting, for in some of its various forms, it seems to be almost always in activity in some portion or other of the world, and is readily communicable by the atmosphere." He prefers the idea that Typhus "depends upon a certain definite poison *which is always more or less in operation*," to supposing that it is generated anew. (Short Treatise, &c., 37.) We cannot find a better place in which to introduce the peculiar views of this intelligent author, on the subject which lies now before us. "Both in typhus, and in the peculiar form of typhoid fever which results from injuries" (and inflammation also?) or as Dr. R. elsewhere says, "in any fever, inflammation of the capillary vessels, and the consequent admixture of morbid secretions from the inner membrane with the blood, is the cause of the most alarming symptoms which arise, as well as of the secondary lesions."—p. 70. If this view cannot be considered as

This leads us to remark that, whereas the peculiar characteristic of typhus fever is to be found in the state of the brain and nervous system, the ataxo-adynamic condition must, to constitute it, occur in the very beginning, or at least very early in the progress of the case, in more or less degree. According to the dose of the poison, it may vary in force, but it may perhaps be said with truth to be never wholly absent. It is this *early prostration not referable to local causes*, which constitutes the great distinguishing mark between the idiopathic and the symptomatic fevers, and although a case of simple continued fever does not merit the appel-

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demonstrated, it is at least ably and ingeniously urged at some length in the work cited, which we consider as a valuable epitome. We cannot discuss the question, but were it admitted as universally true, we might wonder that the typhoid state in these diseases is not of even more frequent occurrence than it is. The theory is not well adapted to cases of Typhus without local lesion.

* Cusack, in a paper on puerperal fever, has expressed himself favorable to the opinion that the infection of Typhus is a source of puerperal phlebitis. Dr. H. Mc Adam (Cyc. Peritonitis) says the same. Armstrong (Morb. Anat. p. 96) says that puerperal fever is sometimes genuine typhus occurring in the puerperal state, and Dr. Stokes participates in this opinion. M. Gasc, the translator of Hildenbrand, is equally convinced of the fact, and Dr. Marsh (Dub. Hosp. Rep. Vol. IV. p. 121) says, on the authority of Dr. Johnson, that the ward maids of the Lying in Hospital caught Typhus fever from the patients affected with puerperal fever. (Roupell, p. 73.) If these facts be so, the morbid poison generated in each disease, as well as the original specific cause, is identical; each is contagious, as the puerperal fever has long been suspected to be. The suggestion which we made as to the nature of the dysentery contracted from typhus patients, receives a strong corroboration from these facts, and an argument is supplied to the supporters of the contagion of Typhus.

lation of typhus, it is from the very nature of its cause, a typhoid fever, even when the signs of adynamia scarcely reveal themselves to the eye, and tends constantly, for the same reason, to a state of greater vital depression.* Let us add, that in cases of typhoid inflammation, we cannot refuse to admit, with Broussais (if we deny the inter-current action of a morbid poison), that such inflammation is the cause of the ataxo-adynamic condition. The error of the physiological school consists in referring such condition always to inflammation, in the idiopathic fevers, while they overlook the deleterious agency of the *specific cause* in exciting both the inflammation and the adynamia. Inflammation is Broussais's entity as much as fever is ours, and every objection which he has urged against our exclusiveness, may, with equal force, be asserted of his own, while truth, we venture to assume, is upon our side.† As to the exanthemata, the supervention of the typhoid state is due not less to the action of the specific cause on the blood and innervation, than to the causes already assigned in relation to the phlegmasiæ, but to explain the reason why cholera infantum, which is an epidemic follicular enteritis, depending likewise on a specific cause, a fever or an inflammation, which the reader will, never does display truly typhoid phenomena in its progress, we honestly confess that we can assign no plausible conjecture. With respect to phthisis, one reason at least is obvious; it depends not upon miasmatic influences. We had intended to have presented the conclusions at which we have arrived on all the points connected with the subject under consideration, in the form of corollaries; but we have protracted our essay to such an extent, as to render it impossible.

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* This simple continued fever is the synochus of authors. "There can be no doubt of the existence of every intermediate gradation, between the common forms of fever (synochus) and typhus, so that it becomes a matter of nicety to discriminate to which class a particular case belongs. Sometimes we find indeed the one form passing into the other; more frequently mild fever lapsing into typhus." (Cyca. Fever.) We have seen typhus of considerable intensity excite a synochus of several weeks' duration in a person exposed to the contagion. This shows that, as Copland remarks, "*the fevers cannot be said to differ specifically from each other.*" (Dict.) The same author states that the chief difference consists in the sthenic vascular reaction, in the early part of the period of excitement in the former. Hildenbrand says that "the miasmata which produce typhus fever may arise at all times," and agrees with Blane and Pringle, that air overcharged with human exhalations is a cause. "Then," he says, "it has the power of self-extension, *and every fever may pass to the state of typhus.* This passage suggests the idea of typhoid symptoms occurring in the course of simple synochus, by infection from an impure atmosphere surrounding the patient. Is this the only cause, or must we admit what it also suggests, the inter-current action of the specific poison always existing in the atmosphere, or, thirdly, conclude that all simple synochi which become typhoid, originated under the influence of that poison? We incline, as has been said, to this latter opinion, thinking that it is both the more consistent with analogy and the more simple one. Lastly, must we, like Southwood Smith, consider the supervening inflammations to be in them the cause of the typhoid phenomena? To this we object the greater probability that they are but effects of the specific cause. Dr. Chambers, in his lectures (Med. Gaz.), not only classes together the varieties of typhus and the synochus and synocha of Cullen, but appears to consider them all analogous to remittent fevers, and ascribes their origin to some such epidemic or endemic influence as gives rise to the marsh fever.

† It is not that the fact is unknown to them, for in the 317th Prop. he says, that "typhus fevers are gastro-enterites from a miasmatic poisoning; that is to say, by putrid gases, often complicated with some other inflammation, and especially those of the cerebro-spinal apparatus, &c." But to show that he misconceives the influences of the poison which he here indicates, we find him elsewhere saying, "we know very well that the alterations of the blood and other fluids, on which we have made many researches, &c., are *consecutive*, at least for the most part, to the inflammation indicated." Still more remarkably in point is the following passage:—"They add (the physiological school) that the absorption of putrid matters, from the inflamed digestive tube, produces an infection of the humors, which contributes, with the irritation of the brain and spinal marrow, to develope the debility, fetidity, nervosity, and all the alarming apparatus of symptoms which constitute typhoid fevers, and *even* true typhus *par infection*, of the worst degree, for they insist that *the infection exerts its principal action on the digestive tube* (affecting sometimes the follicles, sometimes the mucous membrane itself, the latter constant, but the former not), and modifies the functions much as they are in sporadic typhus fever."—(2nd Exam., p. 220.) Even if this were so, the inflammation is only consecutive. "Acute gastro-enterites, which are exasperated, all arrive at stupor, vertigo, &c., and represent what are called putrid, adynamic, typhus fever."—Prop. 138. And Boisseau (Pyret. Physiol., p. 292, Am. ed.) says, that "it would be wrong to conclude that M. Broussais regards typhus as a disease *sui generis.* When the period of sedation, which is always of very short duration, is over, he sees

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nothing in the disease but a phlegmasia." But what causes this "*period of sedation?*" In this work, every page of which abounds with controvertible statements, we have these erroneous views set forth in every conceivable variety of form and expression. "All diseases to which we give the name of fever are primitively local." "To behold in fevers only an effect, *sui generis*, invading the whole economy, is totally at variance with the actual state of pathological anatomy and physiology." Boisseau makes six varieties of fever. His "inflammatory" fever can be nothing but inflammation, ending in typhoid symptoms. His "gastric" fever includes simple bilious derangement, not always febrile, indigestion and dyspepsia, and cholera morbus! His "mucous" fever is an inflammation or irritation of any of the mucous surfaces, and therefore not really deserving of a separate classification from inflammatory fever. His "adynamic and ataxic" fevers are typhus, of which, however, he makes a sixth class. To the miasmatic causes of adynamic fever, which he correctly specifies (considering it contagious), we find him adding, "abuse of mercury and alkalies, excessive evacuations, debauches, extreme fatigue, exhaustion, inaction, prolonged watching and study;" as if these were alone sufficient to induce the disease without the operation of miasmatic causes.—p. 173. "The influence of these emanations is primitively local."—174. And still more extraordinary is the following: "Do deleterious emanations, &c., which provoke gastro-enteritis, determine the adynamic symptoms, by transporting their molecules to the heart or brain (not the blood, Aut.), or only by the irritation they occasion in the mucous membrane? The conveyance of molecules to these viscera, not having been rigorously demonstrated, *cannot be admitted*, and no pathological or therapeutic principle can be established upon a mere presumption. It is better to leave a chasm in the science than to supply the deficiency by error, or what is but little better, by supposition."—176. As if the local and gastro-enteritic theory of fever were not quite as erroneous, or at least equally suppositious. To show the futility of his subdivisions of fever, we find him saying, "the reader must perceive that in giving a description of the adynamic fever, I have retraced the history of the *synochal*, gastric and mucous fevers." His objections to the "essential" theory of fevers could be easily answered, and consist in mere incorrect reiterations of the local origin, although he admits that "essential adynamic fever, if it exist at all, is not only rare, but excessively so;" so that, after all, it is not wholly denied. But he does not agree with Broussais in thinking that "all fevers, even all those called essential, can be attributed to gastro-enteritis." "If by fever be understood an unknown morbid state sui generis, &c." Now no one, of what may be called, in contradistinction, the philosophical school, contends that fever is an *unknown* morbid state; on the contrary, it is a known morbid state, induced oftenest from known causes, although indeed the *modus operandi* of these causes in inducing it may yet be doubtful, both as to where they first operate, and how the morbid action therein is ultimately effected. This is one among many specimens of the fairness of Broussaisan criticism on cotemporary doctrines. Without "unwholesome provisions, dampness, and depressing emotions," *the typhous miasm*, he says, *is innoxious*, and by which alone typhous epidemics may be originated. "If it is ever demonstrated," he says, "that these exhalations really do penetrate into the veins, and are conveyed into the whole arterial system, &c.; but there is no certainty that they are absorbed, and their morbification *generally* manifests itself first on the gastro-intestinal mucous membrane."—300. It is really surprising how the human mind may be blinded by the influence of preconceived opinions, and men of sense consent to resort to disingenuousness in the propagation of error and untruth.

The reader cannot have failed to perceive that the settlement of the various points we have been discussing, must have a most important bearing both upon correct treatment and the public hygeine. The question is, whether, on the one hand, we are to attend solely to the local inflammations which complicate fever, disregarding the adynamic symptoms, and regarding them as indicating, not weakness, but "an increase of force," and the mere consequences of the local lesions; or whether, on the other, we are to direct our chief attention towards disembarrassing the system of the morbific principle, sustaining the strength during its elimination, opposing to the evidences of prostration the action of tonics and diffusible stimuli, and modifying the progress of the local lesions by a modified antiphlogistic treatment during the natural course of the disease, so as to prevent them from passing into irremediable and fatal changes of structure. It must be evident that a correct understanding on these points, must constitute the very basis of a safe and successful mode of practice, which can be founded only on a just appreciation of the cause and nature of febrile diseases. Believing, from the conclusions at which we have found it unavoidable, in view of the facts, to arrive, that the latter is the only course which can be sanctioned by a just induction from the premises, it results: 1st, That the first indication in the treatment of all miasmatic maladies, consists in freeing, as much as possible, the economy from the presence of the morbific principle, or poison, as a means of which, bleeding, at an early stage, and under judicious restrictions, according to particular cases, holds the first rank. 2d, That the second indication is to combat the effects of the morbific agent on the principal organs; effects sometimes asthenic, at other times and oftenest, inflammatory, and, in some cases, lastly, participating in either nature, by means differing, consequently, according to the nature of these effects. 3d, That an attempt must be made to fulfil both these indications at the same time.* 4th, That the treatment cannot be the same in all the phases of these diseases. 5th, That to remove from the place from whence they originate, is the only means truly prophylactic of these affections. 6th, That patients should, as much as possible, be taken out from and disseminated beyond the focus of infection; and 7th, That we need not despair of one day finding an antidote to each of these toxical agents.†

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* "Two great indications—one to discover and remove, or modify, the local inflammations; the other to support the patient's strength, so that he may not become exhausted during the progress of the disease, and thus lose his chance of the spontaneous favorable termination." Stokes (Clin. Lect., Am. Ed., 1837, p. 328).

† A few words as to the nomenclature of Fever. It is certain that there exist in nature, fevers which are intermittent, remittent, and continued. Of the last, there are at least two forms. The one, whatever be its original cause, and we have hinted at its specific character, is not always, *ab initio,* distinctly typhoid; this is the synochus. It may be mild (mitior); it can hardly be severe (gravior) without trenching on the second form, in which the adynamo-ataxic state is, from the first, the distinguishing characteristic. This is typhus. It, too, may be designated by the terms mitior and gravior, according to its severity; and when that peculiar lesion can be diagnosticated with certainty during life, which is not always possible, even when it exists, it may be both convenient and scientific to append to either variety, the epithet *dothinenteriticus.* But we protest against the making this a separate disease from typhus, and the designating it by a special appellation. The symptomatic fevers have, of course, no place in this arrangement. Whether, when synochus becomes typhoid, it be not proved to have been typhus from the beginning, is a question, the

Here we conclude our essay; sheltering ourselves, if censured for its length, behind the extent, the interest and the importance of our subject. A similar resumé of cotemporary opinions is not furnished, so far as we know, by any existing monograph on the subject of the disease of most surpassing interest and importance in the whole range of human maladies; and it has cost time and research, nay, reflection, in its preparation; nevertheless, we are but too sensible of its imperfections. Little, comparatively, has been done, and much remains behind; but our inquiries, we trust, may serve at least to excite consideration, and supply the sources for further investigation. The answers which we have supplied are to be regarded in no other light, than as humble attempts at an approximation to truth, and often, doubtless, erroneous ones. To have stated the opinions, or searched the pages, of *every* writer whose works bear upon the subject, would have been infinitely too comprehensive; one inquiry gives rise only to another, book refers to book; and, in short, to pursue perfection in medical literature is, to use the language of Johnson, "like the first inhabitants of Arcadia, to chase the sun, which, when they had reached the hill where he seemed to rest, was still beheld at the same distance before them." The attempt, however, cannot be useless; nor is the object unscientific, for art, as Roupell has prettily said, "then alone rises into science, when, besides meeting effects, *we search into causes*, and when administering appropriate remedies, we can give a reason for their use and explain their operation." The inquiry involves many logical niceties, but they are necessary; most of the more recent standard authorities have been consulted, and those conclusions deduced which seemed naturally to follow from the premises. Nevertheless, the ultimate solution must be left to the judgment of the reader, of a question about which it is of vital importance that unanimity of sentiment should prevail. Our aim has been to direct, but not to compel his convictions. Reflection is the first step toward the attainment of truth.

ART. IV.—*Remarks on a New Method of Operation for Stone in the Bladder, accompanied by an illustration of a new instrument.* By ALFRED C. POST, M. D., Surgeon to the New York Hospital, &c.

THE operation of lithotomy has always been justly regarded as one of the most formidable in surgery. The dangers of the operation are to be chiefly ascribed to one of two opposite causes, viz., an incision into the

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solution of which is left to the judgment of the reader. There is a great deal both of truth and good sense in the following remark of Roupell. "A more rational division of the class of fevers can perhaps be made by simply dividing them into symptomatic and specific. For no febrile action, or actual fever, will be produced and continue, unless there be such a cause as disturbed action in some part of the system, to excite the symptomatic fever; or unless there should be *some specific influence* in operation in the other. Specific influences are either of atmospheric, vegetable or animal origin, or the two last combined." Anth.

bladder of too great or of too small extent. If the incision be too extensive, or, in other words, if it be carried beyond the bounds of the prostate gland, there is danger of hemorrhage from the prostatic plexus of veins, and of urinary infiltration into the sub-peritoneal cellular tissue of the pelvis. Death may ensue from either of these accidents. If the incision extend much beyond the limits of the prostate gland, it may even involve the internal pudic artery. If the incision be too small, the laceration and contusion to which the neck of the bladder and the prostate gland will necessarily be subjected during the extraction of the stone, will be likely to give rise to severe and even fatal inflammation. To ensure an incision of a definite size into the neck of the bladder, within the limits of the prostate gland, is one of the great desiderata in the operation. In the ordinary mode of operating with a bistoury, the extent of the incision into the neck of the bladder is a matter of much uncertainty, as the incision is made with a narrow instrument, at a considerable depth from the surface, and beyond the view of the operator. To make the incision of a definite extent, cutting gorgets of different forms have been contrived, and there could be no question of the superiority of these instruments to the common bistoury, if they could be conducted with certainty along the groove of the staff into the bladder. But from their breadth, there is much more difficulty in guiding them safely into the bladder, and there is danger of their slipping so as to wound the internal pudic artery, or the rectum, or to penetrate into the cellular tissue between the bladder and rectum, or even into the peritoneal cavity. Great caution is, therefore, required in the use of these instruments; when they are guided by skilful hands, they may undoubtedly be employed with safety and advantage, but without suitable caution, their use is very dangerous. The Prostatic Bisector of Doctor Stevens,* which acts on the principle of a double-edged gorget, has the advantage over the common cutting gorget, that it cuts on both sides of the prostate gland, and thus secures a larger opening into the neck of the bladder without any additional hazard to the patient. But the principal objection to the common gorget, viz., its liability to slip, applies also to Doctor Stevens's instrument, although from its introduction along the median line, the danger of slipping is not so great as in the lateral operation. But from the breadth and thickness of the instrument, considerable force is required to conduct it into the bladder, and it is liable to slip into the cellular cul-de-sac between the bladder and rectum. This accident happened to myself in one instance, in operating with this instrument upon the dead subject; the beak of the instrument slipped from the groove of the staff, and entered the bladder behind the prostate gland, and between the vesiculæ seminales. I removed the stone through the opening thus made, and only detected the accident on a subsequent dissection of the parts.

To obviate the inconveniences and dangers attending the modes of operating which have hitherto been resorted to, I have devised a new method, which I venture to lay before the profession. The method to which I allude is a modification of the bilateral operation. I propose to make an external crescentic incision through the perineum on both sides of the median line, the concavity looking toward the anus, according to the method described by Celsus, and performed in modern times by Dupuytren, of Paris, and by Doctor Stevens, of New York. I then make

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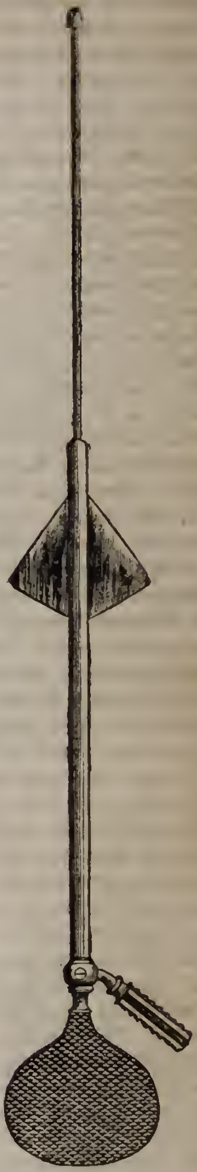
* See Lectures on Lithotomy, by Alexander H. Stevens, M. D. New York, 1838.



a free incision into the membranous part of the urethra, upon a grooved staff, after which the staff is withdrawn, and the remaining part of the operation is performed with a new instrument, which I have contrived for the purpose, and which is designed to guard against the uncertainty and danger attending the use of the instruments which have hitherto been employed. My instrument consists of a straight steel rod, eleven inches in length, and of the size of a bougie No. 1, having a flat ivory handle at one extremity, and a small rounded button at the other extremity. Over this rod slides a canula of the size of a bougie No. 10, and half the length of the rod. The distal extremity of the canula is tapered off to the extent of three quarters of an inch, so as to form a beak which projects beyond the blades; immediately behind this beak, are two blades, which are inserted into grooves on the sides of the canula, in such a manner that they can easily be taken out and reinserted. There are four sets of blades of different breadths; the largest make an incision into the neck of the bladder of about one inch and a half in width, and the smallest about three quarters of an inch. The proximal extremity of the canula has a small ivory handle adapted to it, by means of which the canula is made to slide upon the rod. The incision into the membranous part of the urethra having been made, as already described, the extremity of the rod is passed through it into the bladder, the canula being drawn back towards the handle of the rod; the beak of the canula is then passed along the rod into the urethra, and is thus conducted into the bladder, the blades making an incision of a definite extent on each side of the prostate gland. By the use of this instrument, a degree of certainty is attained as to the situation and extent of the opening into the bladder, which cannot be acquired by the employment of any other instrument. It appears to me, therefore, that this method of operating must be simpler in its execution, and safer in its results, than any other method. I have not yet had an opportunity of testing the operation upon the living subject; I have tried it upon the dead subject, and have found that it makes a very satisfactory incision into the neck of the bladder.

The accompanying cut will render the description of the instrument more intelligible to the reader.

Art. V.—*Further Thoughts on the Hypotheses of the Chemico-physiological School.* By Charles Caldwell, M. D., Professor of the Institutes of Medicine and Medical Jurisprudence, Louisville, Kentucky.

No. II.

In every controversy, whatever be its character or general design, it is indispensable to a conclusive and satisfactory result of it, that a clear and definite conception be formed, and held constantly in view, of the end or ends which each party to it is struggling to attain.

To the truth of this proposition, observation and experience, in concurrence with reason and common sense, abundantly testify. Hence it is the interest, as well as the duty of every controvertist to conform to it in practice. It is in a spirit of obedience to it, therefore, that I now state, that the end aimed at in the present controversy, is the solution of the question—Whether chemistry, under a correct interpretation of the term, be essential to, or at all concerned in, the formation and economy of living organized matter? And this question involves another, equally abstruse and difficult to be resolved—Do the primary elements of living organized matter—carbon, oxygen, hydrogen, and azote—contain of themselves, when in an isolated condition, the properties requisite to the formation and functions of such matter? This question, moreover, includes a third, equally as difficult of solution as either of the two preceding ones, and is as follows—In case the elements, just enumerated, do not, of themselves, when uncombined with one another, or with some other substance, possess the properties *required*, can those properties be imparted to them by any sort of juxta-position, arrangement, or combination, which they can be made to receive? Must not the new properties referred to, be produced in them, if produced at all, by their union with some other substance possessed of great peculiarity and *formative* power?

Unless the first three of the foregoing questions admit of a correct *affirmative* answer, then is the main prop of the hypothesis of the chemico-physiologists overthrown and demolished. And of that event the necessary consequence will be, that the fourth question also must be answered *affirmatively*, which will establish the doctrines of the vital physiologists.

If I am mistaken in any of these positions, I will receive a correction of my error by my opponents as a favor, and will cordially thank them for the service they will have rendered me.

True, by the *chemical* union of the fundamental elements of organized matter, compounds are produced, possessing new and striking properties. Oxygen united to carbon, forms carbonic acid—to hydrogen, water—to azote, nitrous acid—and the product of the union of azote and hydrogen is ammonia. And these compounds, I say, possess properties widely different from those of the elements which compose them. But they are still the properties of dead, inorganic matter, as immeasurably different from those of living organized matter, as death is from life, or entity from nonentity.

I well know, however, that neither of the questions just proposed can be, in the abstract, directly and definitively answered. They relate to matters too recondite and obscure to admit of such an issue. My *chief* resource, therefore, in the present discussion, is, to throw on the subject all the light I can, by collateral considerations. But that is not my *only* resource. I shall be able, if I mistake not, to strengthen my own views by exposing the *inherent* and essential weakness of those of my opponents, which are, in most respects, the *opposite* of mine. If I can make it clearly appear that those writers have virtually contradicted themselves, by assuming at different times, for their own special purposes, positions inconsistent with each other, and employed as arguments to sustain those positions, conjectures, and presumptions, instead of facts and inferences justified by facts—if I can do this and thus convict them of loose and sophistical reasoning, whatever effect the measure may produce on my opinions, it will doubtless be highly prejudicial to theirs. It will confirm against them one or more of the three following charges, or all of them united; a want of argumentative ability—a looseness and negligence in inquiry and discussion—or a want of solid and suitable matter for argument and defence. In either case, the result, if duly appreciated, cannot fail to operate to the discredit of their hypotheses, and will detract in an equal degree from their own authority and influence, as physiologists and controvertists.

That thus unsound and inefficient are the writings of the chemico-physiologists, on their favorite subject, I shall endeavor to demonstrate. And I shall commence my disquisition with an exposure of some of the errors of Dr. Roget. Nor, open and palpable as those errors are, do I anticipate much difficulty in the attainment of my end.

In the first American edition of Roget's "Outlines of Physiology and Phrenology," page 14, is contained the following correct definition, or rather delineation of chemistry, and of the class of the sciences to which it belongs:

> "Chemistry, which is concerned with the changes of composition in bodies, resulting from the mutual action of their particles at insensible distances, ranks also with the *sciences treating of the properties of inorganic* matter, and of which the assemblage constitutes what are *more correctly* termed, in the present day, the *physical* sciences."

The view of chemistry presented in this paragraph, I say, as far as it extends, is correct. A single word more would have rendered it unexceptionable, and consistent with the views of the vitalists, and might have spared its author no little perplexity which he afterwards experienced in struggling to extricate himself from the entanglements of chemico-physiology. Had he said that chemistry "ranks with the sciences relating to the properties of inorganic matter" *alone*, the work would have been done, and no opening left for subsequent cavilling or trouble.

The word *alone*, if thus added, renders the doctor's definition of chemistry perfectly accordant with the definitions of it given by some of the greatest masters of the science; by whom it was confined within its *proper sphere*, and never prostituted to purposes foreign from its nature.

Nor is the preceding the only paragraph of his "Outlines," in which our author speaks correctly of the objects, limits, and relations of chemistry. The following clauses are to the same effect:

> "The phenomena of *living beings* have a totally *different character* from the *changes* which take place in *inanimate* matter."—(P. 15.)

They do and *must*, therefore, proceed from causes and modes of action equally different. Again:

> "Thus, while the sciences of inorganic matter are founded on the relations of cause and effect, physiology takes cognizance more especially of the relation of means to ends."—(P. 17.)
>
> "The laws of chemistry apply also, *to a certain extent*, to the changes which are going on in the living system; but, in tracing the operation of these laws, we soon become sensible of the *apparent* interference of other principles, which *seem* to control the ordinary chemical affinities, which the same kinds of matter are found to exert when deprived of life. * * * Here, then, we are forced to recognize the existence of *new and unknown powers peculiar to and characterizing the living state.* * * * * Here, then, we perceive a sensible deviation from the course of phenomena exhibited by inorganic matter; and we are forced to recognize the existence of new and unknown powers, peculiar to and characterizing the living state. * * * * Powers of a similar kind are exhibited in the phenomena of vegetation; they *seem*, therefore, to attach to vitality in all its forms."—(P. 58.)

Such are some of the sentiments and representations of Dr. Roget; and extracts from his "Outlines," to the same purport, might be greatly multiplied. Indeed, so deeply is the doctor imbued with the spirit, and so thoroughly penetrated by the truths of sound vitalism, that his continuing a nonconformist to the doctrine is matter of surprise, not to say of astonishment, to many of the readers and admirers of his works. At times he is all but a proselyte to the *true faith*, and seems to be in the very act of completing his destiny. But, in the next moment, as if attracted by an enchantress, or repulsed by a spectre, he turns his back on the land of promise, and not only longs for the "flesh-pots" of chemico-physiology, but indulges in them to satiety. And he defends his selection of mental fare with such cobweb sophistry, as sheds its blight on the following paragraphs, and characterizes him as what the world calls an *ingenious* and *plausible* rather than a *sound* and *powerful* reasoner.

> "However the laws which regulate the vital phenomena may appear, *on a superficial view*, to differ from those by which the physical changes taking place in inorganic matter are governed, still a more profound investigation of their real character will show that, when viewed abstractly from the consideration of final causes, there is really no essential difference between them, either as to their comprehensiveness, their uniformity of action, or the mode in which they are to be established, by the generalization of particular facts."—(P. 63.)

Once more:

> "It may in like manner be contended, that the affinities which hold together the elements of living bodies, and which govern the elaboration of organic products, are the *same with those which preside over inorganic compounds;* and that the designations of *organic* and *vital affinities* are expressive only of peculiarities attending the circumstances and conditions under which they are placed, but do not *imply any real difference in the nature of the powers themselves.*"—(Ibid.)

When I contemplate Dr. Roget in his entire character, which, both intellectually and morally, I know to be one of great respectability, I am filled with amazement at his having written and published the two last-quoted paragraphs, after having been the author of the three or four preceding ones.

If there be in existence any two books whose contents are more unequivocally contradictory of each other, than those two sets of paragraphs, I am ignorant alike of their authorship and of the language in which they are written; for I have never beheld them. To make good this statement, I shall here array in full contrast with each other, side by side, or rather consecutively, a few of the mutually contradictory clauses.

> "The phenomena of living beings have a *totally different character* from the changes which take place in inorganic matter."
>
> "Here, then, we are forced to recognize the existence of *new* and *unknown powers*, *peculiar to* and characterizing the living state."

That these two sentences are samples of sound and genuine vitalism, will not be denied. Nor is it less certain that the two following ones are directly the reverse—the unadulterated essence of chemico-physiologism.

> "A more profound investigation of their real character" (the laws which regulate vital phenomena) "will show, that, abstractly from the consideration of final causes, there is really no difference between *them* and those by which the *physical changes taking place in inorganic matter* are governed."
>
> "It may, in like manner, be contended, that the affinities which hold together the elements of *living bodies*, and which govern the elaboration of organic products, are the same with those which preside over *inorganic* compounds."

On the plain and positive contradictoriness of the substance of the two latter extracts to that of the two former ones, comment would be useless. The very presentation of them to the reader must conclusively evince to him, that on the subject of vitalism, its causes, and laws, Dr. Roget is as irreconcilably at war with himself, as he is with the vitalists in the two latter clauses. And I need hardly add, that a controversial writer is never so irretrievably overthrown, as when he falls the victim of his own inconsistencies.

I have alleged that the logic resorted to by Dr. Roget and his fellow-members of the chemico-physiological school, in support of their hypothesis, is unsound and sophistical. That instead of facts and established truths, those writers employ, as premises, conjectures, suppositions, and anticipated and contingent events, whose occurrence, not legitimately deduced or deducible from either precedent or probability, is but presumptive or fictitious; and that thus their entire scheme of argument and discussion, instead of being solid and conclusive, is visionary and deceptive.

This charge, under any circumstances, is a serious one; and, by being preferred against scholars and philosophers of rank and standing, it is, in no small degree, aggravated. It belongs to me, therefore, to endeavor to make it good. Nor do I deem the effort either difficult in its nature, or doubtful in its issue. The end contemplated can be easily attained by a brief comment on the two following paragraphs, a portion of one of which has been already quoted.

> "It may, in like manner, be contended that the affinities which hold together the elements of living bodies, and which govern the elaboration of organic products, are the same with those which preside over inorganic compounds; and that the designations of organic and vital affinities are expressive only of peculiarities attending the circumstances and conditions under which they are placed, but do not imply any real difference in the nature of the powers themselves. If our knowledge of these circumstances and conditions were complete, their identity would be at once revealed to us; but until that period, which must be very far distant, has arrived, we must be content with gathering a few indications, which

occasionally break out from the clouds of mystery in which the subject is obscured, of the similarity of operation between the two apparently contending powers, the ordinary chemical and the extraordinary vital affinities. Every fresh discovery in animal and vegetable chemistry, by showing the mutual convertibility of organic compounds, adds to the number of those indications. Hence it becomes every day more and more probable that the forces immediately concerned in the production of chemical changes in the body are the same as those which are in constant operation in the inorganic world; and that we are not warranted in the assertion that the operations of vital chemistry are directed by distinct laws, and are the results of new agencies.

"We are therefore led to the conclusion, that the vital properties are not, as it is commonly expressed, superadded to matter in the process of organization, but are the result of the material constitution, that is, of the peculiar *combination and arrangement* of the ultimate molecules of the organized tissues, which call out and develope the properties previously existing in those molecules, but which cannot be effective unless these circumstances exist."

My first remark on these passages is, that they are of a tenor so conditional, suppositious, and conjectural, half mystical and obscure, that it is exceedingly difficult to form a clear and definite conception of them, and therefore all but impossible to offer a lucid and satisfactory comment on them. The vacillation and indecisiveness of their character plainly indicate that Dr. Roget, when composing them, felt a consciousness that he occupied a very doubtful and hazardous position, and was engaged in an enterprise in science too deep and dark for his powers of penetration and research (though he is neither dull-sighted nor shallow-minded), and too ponderous for his mental strength (though he is far from being obtuse or feeble in intellect). From the beginning to the end of his struggle, he presents a dubious, wary, and *non-committal* aspect.

He does not utter a single intrepid or manly thought, but expresses himself with the cautiousness, not to say timidity, with which an irresolute individual moves along his path, when thick darkness is around him, and near to him (he knows not on which side) is a dangerous precipice.

The Doctor seems anxious to be thought sagacious, profound, and all but prophetically wise; yet does he shrink, I say, from making a bold and vigorous effort for the attainment of his end. Did I not deem him too honest and high-minded to be capable of descending to artifice or finesse, I would feel authorized to suspect him of pretending to more knowledge, deeper research, and a wider range of thought, than he actually possesses. This semi-suspicion has been excited in me by the fact, that his preciseness of manner, and the wariness of his phraseology, greatly surpass the accuracy of his logic, and the correctness of his decisions.

But, notwithstanding the general obscurity of the preceding paragraphs, light enough emanates from a few spots in them to disclose some of our author's hypotheses. Of these, therefore, I shall now proceed to speak. His statement is sufficiently intelligible, when he says that the

"Designations of organic and vital affinities are expressive only of peculiarities attending the circumstances and conditions under which they are placed, but do not imply any real difference between the nature of the powers themselves and the nature of those that preside over inorganic compounds."

This assertion, I say, is easily understood. It means, that the same affinities or forces which bring together and hold together a piece of marble, or a nodule of flint, bring and hold together that important muscle, the human heart, and that still more exalted viscus, the human brain.

Nor, when fairly presented in all its nakedness, will any enlightened physiologist on earth, nor any other sensible man, unless under some perverting hallucination, believe the position.

I cannot persuade myself that Dr. Roget has ever deliberately and closely scrutinized the subject on which he has here discoursed, else could he never have fallen into an error so gross and glaring. By a brief and simple disquisition, this may be demonstrated.

During life, the muscles are under the influence of "vital affinity," or attraction, which gives them the chief portion of their strength. But death, when complete, destroys that attraction, as well as the degree of strength which it imparted. Nothing now remains to hold those organs together except the attraction of dead matter; and whether that be chemical or adhesive, or both united, is of no moment in the present discussion. It has comparatively but little influence on the tenacity of the muscles.

These organs, when dead, do not possess, perhaps, a tithe of the strength which marks them while living. Hence the ease with which a muscle may be lacerated; and hence, also, its tenderness as an article of diet, when its vitality is completely extinguished. In a stag that has been long and fiercely pursued by hounds, until, after a preternatural bound over a stream or a fence, he falls instantly dead, life is entirely extinguished, the muscles are easily torn to pieces, are tender as aliment, and cannot, by irritation, be made to contract; nor, in consequence of its thorough exhaustion of vitality, does the blood coagulate. In this case, the carcase, for the same reason, rapidly putrifies. Of animals destroyed by lightning, or by a large dose of virulent poison, the same is true, from the same cause.

Of some of these truths, those *devotees to appetite*, usually, but improperly, denominated *epicures*, are informed, without knowing the philosophy of them. They, therefore, before having them prepared for the table, allow their venison, and other sorts of game, to run to the very verge of putrescence. In other words, they wait until vitality has utterly *deserted*, and chemistry begun to *invade* them. But a proof more forcible and striking than either of these, that vital attraction is something *real* and *substantial*, and not a mere *circumstance*, either accidental or factitious, remains to be mentioned.

During life, the gastrocnemei muscles are vastly stronger than the tendo Achillis, to which they are attached. Hence, by a violent exertion of the leg, *they* not unfrequently rupture *it*, while *it* never, in such a case, ruptures *them*, because it is the weaker. After death, however, especially if it be *complete*, the reverse is true. In that condition, the tendon is capable of sustaining a weight sufficient to tear asunder probably a dozen of such muscles.

What, I ask, is the cause of this?—and a tyro in physiology ought to be able to answer the question.

During life, the muscles possess, perhaps, tenfold as much of vitality and its strength-giving quality, as the tendon does. Why? On account of their containing, in their organism, a superior amount of blood-vessels and nerves, with their invigorating influence. In a corresponding degree, therefore, they are stronger than the tendon.

After death, however, the muscles, having lost their life-giving and strength-giving attribute (I mean their *vital attraction*), are, to a great extent, the weaker; because, compared to those of the tendon, their structure and organization are very loose and lacerable.

In this case, it is worthy of observation, that, after death, the muscles possess all the chemical and adhesive affinities which attached to them during life. Their vital attributes alone are taken from them. And that privation has produced their weakness. Dr. Roget, therefore, is no more authorized to pronounce vital affinity a mere abstraction, or to use terms in relation to it, representing it as an *imaginary* generalization, than I am to apply similar terms to chemical affinity, in its influence on sulphate of soda, or nitrate of potash. And all the objections he has stated to this truth are but conjecture and cavil, under an assumption of sagacity and knowledge, beyond what either he or any other individual possesses.

Our author's unaccountably negligent and loose style of thinking on this subject is further manifested by a discreditable blunder, into which a man, possessed of his mental acuteness and discipline, could not possibly have fallen, except through inattention and wanton carelessness respecting the question at issue. And that question is the momentous and interesting one, involving the influence and character of the powers, affinities, and laws of chemistry and vitality.

Of the nature of these two sets of agents, or rather sources of action, our author correctly confesses his entire ignorance. And he frankly acknowledges that the period is "very far distant," when either he, or any other person, will have attained an acquaintance with it. Indeed, from the form of expression used by him, he seems extremely doubtful whether that period will ever arrive.

Yet, in the midst of this entire destitution of knowledge respecting the nature of chemical and vital affinities, he confidently asserts that, when the darkness which now covers them shall have been dissipated, and the requisite light thrown on them, they will be *found to be the same*. He thus clearly asserts that, what he avowedly does *not* know, he, notwithstanding, *does* know. For, if, as he had previously acknowledged, he knows nothing about the affinities in question, how does he know that they are identical with each other? The allegation is even worse than absurd. This is no caricature representation of his notions; but a picture of them true to life. The genuine interpretation of this singular abuse of words and suppositions is, that though Dr. Roget is totally uninformed of the *character* of both chemical and vital affinities, he, notwithstanding, knows them to be of the *same character*. His expressions on the subject may be thus syllogized.

Of the nature of chemical and vital affinities I am now ignorant.

The time is very remote (perhaps indefinitely so) before any satisfactory knowledge of those affinities will have been attained.

Therefore, I know that when that time shall have arrived (should it ever arrive) they will be found to be the same.

These are not, indeed, our author's words. But I appeal to the candid and enlightened reader, whether the mixture of incongruities and absurdities which they express, is not contained in the paragraphs I have quoted? And I cheerfully abide the issue of his answer.—Again.

Alluding to what he represents as *indications* of the identity of chemical and vital affinities, Dr. Roget, as the reader must remember, thus expresses himself in the preceding extract.

> "Every fresh discovery in animal and vegetable chemistry, by showing the *mutual convertibility* of many of the proximate principles of organic compounds, adds to the number of *those indications*."

This is an assertion, the true character of which is not easily detected. It is either utterly groundless, and therefore unworthy of notice, in an intellectual point of view: or it is artfully *equivocal*, and hence exceptionable as regards its relationship to candor and truth.

If our author means by it that *vital action* can convert into each other the "proximate principles of organic compounds," his position is so correct and familiar, as to be nothing but a truism. But if he alleges that the conversion can be effected by chemical agency, he is mistaken; and his assertion is reprehensible, because unsound and calculated to mislead.

The three leading "proximate principles" (of animal organic matter) are gelatin, fibrin, and albumen. And the entire host of chemists, armed in all their skill and power, may be safely defied to take into their laboratories any one of these, and convert it into either of the others. Nor will the challenge be accepted; because every chemist worthy of the name is perfectly aware that he would be vanquished in the contest.

It is not true, therefore, that fresh discoveries in animal and vegetable chemistry make any perceptible approach toward a disclosure of the identity of vital and chemical affinities. On the contrary, I think them much more likely to produce an opposite effect. The more true light new discoveries throw on them, the better and more fully will they be understood; and, therefore, their essential and wide difference will be the more clearly perceived.

I am prepared to expect that opposition will be offered to this sentiment, on the authority of Professor Liebig, who informs us that M. Denis has "succeeded in converting fibrin into albumen, that is, in giving it the solubility and coagulability by heat, which characterize the white of egg."

For several reasons, this statement by Liebig is entitled, as testimony, to little or no consideration or weight.

In the first place, the statement is made in a manner much less confident and positive than that which the Professor usually adopts. The reason of this seems plain. He deems his report of a doubtful character. And what he, in his sublimated enthusiasm, thinks doubtful, in relation to the power and performance of chemistry, should be held trebly doubtful by all calm and judicious inquirers.

Nor does the Professor even allege that the conversion of fibrin into albumen was complete. He only says that the former was rendered *soluble* and *coagulable* by heat. But solubility and coagulability by heat are not the only qualities which distinguish albumen from fibrin. Those substances differ also in other respects, in relation to which no conversion or identification is stated to have been produced.

Even from Liebig's own account of the matter, then, we are not authorized to believe that the conversion of the latter article into the former was entire. On the contrary, we have ground for strong suspicion that it was not, else would the production of other resemblances between them have been mentioned.

In the second place, a single instance of *reputed* and *reported* success, in an experiment so novel and important as that of attempting the conversion of fibrin into albumen, is insufficient for the positive establishment of the event. And, as far as information has reached me, M. Denis is the only experimenter on the subject alleged to have been successful. Had Professor Liebig himself succeeded in the experiment, or had he known of any other person besides M. Denis, who had been so fortunate, the public would doubtless have been apprised of the fact. The Professor is too deeply enamored of his own opinions to be likely to conceal or forget any discovery calculated to favor them.

But my strongest objection to the reported conversion, as an argument, in the present case, is yet to come.

No matter whether M. Denis has or has not converted *dead* fibrin into *dead* albumen. That is not the point at issue. Has he, by chemical agency, converted fibrin, either dead or living, into *living* albumen? into albumen, I mean, possessing the condition which that substance possesses when circulating as a portion of living blood? or when it constitutes a part of a living tissue?

These questions I venture myself to answer in the negative. And, if personally interrogated, M. Denis will acknowledge that my answer is correct.

Admitting then the entire soundness of Professor Liebig's report, it has not, as an argument, in the present discussion, the weight of the gossamer. It is essentially irrelevant to the point under consideration.

The topic agitated is not the influence of chemical affinity, in relation to *dead*, but in relation to *living* matter. And I need hardly add, that the two cases, being the very opposites of each other, admit of neither reciprocity nor connection, comparison nor analogy. To me, therefore, it is matter of amazement, that able and enlightened men persist in contending that the same principles are operative in each.

The last paragraph of the preceding extracts contains another very palpable error. I allude to the assertion, that "the vital properties are not, as is commonly expressed, superadded to matter, in the process of organization, but are the result of the material constitution, that is, of the *peculiar combination and arrangement of the ultimate molecules of the organized tissues*."

As far as our author's notion is discoverable through his style, which is much more remarkable for its elaborateness and verbosity than for its perspicuity and definiteness, his meaning in this passage is, that the elementary molecules of organized matter (those I mean out of which organized matter is formed), possess, of themselves, even when in an isolated condition, true vital properties. Those properties, however, are then *latent*, waiting to be evolved and rendered open and active, by "combination and arrangement" with other molecules possessed of similar properties. Such combination and arrangement moreover, it is contended by our author, do evolve them, and thus produce living beings.

This hypothesis is neither new nor plausible, nor in any respect tributary to the promotion of science. On the contrary, it is exceedingly antiquated and time-worn, and subservient to one of the most exceptionable errors of Grecian philosophy—or rather it is that error itself, under an altered form. I had flattered myself that, among enlightened and respectable physiologists, the notion was obsolete and rejected, at least, if not entirely forgotten. Finding myself, however, so far mistaken, that the fancy, visionary as it is, receives the countenance and support of the leading members of the chemico-physiological school, I am inclined to believe that a few strictures on it, in this article, will not be out of place.

I feel persuaded that Dr. Roget has never so completely examined and analyzed this hypothesis, and then so thoroughly reflected on it, as to carry it out, in a deliberate view of it, to the full extent that its principles warrant; else would he never have adopted it and attempted its defence. The reasons which have led me to this persuasion I shall briefly detail.

What our author calls the "ultimate molecules of the organized tissues" can be nothing else than oxygen, carbon, hydrogen, and azote. These are what I have myself called "vitalizable matter,"—meaning by the phrase, matter susceptible of vitalization, by being united with the vital principle. Dr. Roget, however, goes far beyond this, and pronounces them matter already vitalized—and actually possessed of all the properties of life, only existing in a latent condition, but ready to be roused into an active one, and then to put forth, without further aid, the vital plastic or productive force, and exhibit all the diversified phenomena of life, by the influence of combination and arrangement alone.

Now, this combination and arrangement are nothing more than a sort of *union* or contact of particles with each other. It is only the simple position or placement of them, front to front, back to back, side to side, or end to end.

Those ultimate molecules, possessing of themselves, though in a latent condition, all the properties and affinities of living organized matter, need only, in some of these modes, be suitably joined together, and, by their vivifying action on each other, living organized matter, with the whole array of its qualities, powers, and functions, is the product.

And of matter thus organized, one of the uniform and essential attributes being the vital plastic force just referred to, it not only assimilates, by way of nutriment, other matter to itself, but so controls and modifies such matter, as to give it form, size, odor, and color, and mould into organs wisely adapted to ulterior action, in the performance of functions salutary and necessary to the beings to which they belong.

In still plainer terms; if I mistake not Dr. Roget's meaning (if indeed his words embrace any definite meaning), his notion implies, that oxygen, hydrogen, carbon, and nitrogen, possess in and of themselves, among their *native* attributes, those of *wise* and *beneficent design*, and the ability to carry that design into effect, by the forms of organization they spontaneously produce.

For the benefit of the system, they construct and prepare the liver to secrete bile, the kidneys to secrete urine, the lungs to arterialize the blood, the heart and blood-vessels to perform circulation, the stomach to secrete gastric juice and prepare chyme, and the small intestines to mature that substance into chyle, the capillaries and parenchyma to perform sundry other sorts of secretions, together with the general process of nutrition, the muscles to produce various kinds of motion, with a long and diversified train of *et ceteras*, and the brain, spinal cord, and nerves, to superintend and regulate the whole.

Dr. Roget himself, when he speaks as an enlightened philosopher, and a judicious and observing man, fully acknowledges the production of these organic aptitudes for the performance of salutary functions, to belong to living matter, and to constitute an essential distinction between it and dead inorganic matter. But when he assumes the character of a wantonly speculating chemico-physiologist, he either forgets the mark of distinction, or perverts it to an unauthorized and sinister purpose.

If it be true, then, that, in the language of our author, "the vital properties are not superadded to matter, in the process of organization, but are the result of the peculiar combination and arrangement of the ultimate molecules of the organized tissues"—if this be true, then do we truly inhabit a *world of* life within us as without us—then do the air we breathe and the food, water and other liquids we swallow (abounding as they do in the doctor's "ultimate molecules"), with all their properties, possess within themselves, and without any additional aid, the power of becoming living, organized, function-performing beings. Thus, instead of living "in the *midst of death*," as we are declared to do by an inspired writer, we live literally in the *midst of life* with radically living matter in *the midst of us*—so virtually says Dr. Roget!! For the completion of his scheme, however, an indispensable proviso must be admitted and settled. It is, that his "ultimate molecules" be properly united.

Here, however, presents itself a question exceedingly difficult to be resolved.

By what agent are our author's "peculiar combination and arrangement" of his "molecules" to be effected?

Do the "molecules" arrange themselves? or, are they arranged by some other and higher source of action? If the latter question is to be answered affirmatively, what is that source? Our author is bound to tell us. If the former question is to be answered affirmatively, then is even the far-famed Liebig mistaken; for he pronounces both atmospheric air and water to be *dead matter*, and perhaps so completely dead as to be *mineral substances.*

But if the great German chemist be correct in this opinion, as I apprehend the entire scientific world believe him to be, then does Dr. Roget make a fatal departure from the time-worn and established maxim, *ex nihilo, nihil fit—from nothing, nothing results*—or contraries cannot produce each other. For, in the case in question, he virtually asserts that from *dead matter*, unaided by "superadded properties," *living* matter *does* result.

To expose either unfairness or defect in this chain of reasoning, our author and his advocates are openly defied. That they may possess a mirror by which their inconsistencies and blunders are accurately represented, I ask their attention to the following homely but sound syllogism, constructed in conformity to their tenets from the preceding matter:

Dr. Roget asserts, that, by a peculiar combination and arrangement, without any superadded matter or properties, oxygen, hydrogen, carbon, and nitrogen, can be made up into living organized matter.

Professor Liebig and the entire world of science pronounce these four articles to be dead matter.

Therefore, from *dead inorganic matter*, without the superaddition of "vital properties," *living organized* matter can be produced. Such is the preposterous inference deducible, by a fair process of logic, from sentiments openly avowed in the "Outlines of Physiology and Phrenology," by Dr. Roget.

ART. VI. *Vaginal Hysterotomy.* By GUNNING S. BEDFORD, M. D., Professor of Midwifery and the Diseases of Women and Children in the University of New York.

DECEMBER 19th, 1843, Drs. Vermeule and Holden requested me to meet them in consultation in the case of Mrs. M., who had been in labor for twenty-four hours. On arriving at the house, I learned the following particulars from the medical gentlemen. Mrs. M. was the mother of two children, and had been suffering severely, for the last fourteen hours, from strong expulsive pains which, however, had not caused the slightest progress in the delivery. I was likewise informed that, about four hours before I saw the case, Dr. Miner, an experienced physician, had been sent for, and after instituting a vaginal examination, remarked to the attending physicians that, "in all his practice he had never met with a similar case." Dr. Miner suggested the administration of an anodyne, and, having other professional engagements, left the house. Mrs. M. had been taken in labor Monday, December 18th, at seven o'clock P.M., and on Tuesday, at seven P.M., I first saw her. Her pains were then almost constant, and such had been the severity of her suffering that her cries for relief, as her medical attendants informed me, had attracted crowds of persons about the door. As soon as I entered her room, she exclaimed, "For God's sake, Doctor, cut me open, or I shall die; I never can be delivered without you cut me open." I was struck with this language, especially as I had already been informed that she had previously borne two children. At the request of the medical gentlemen, I proceeded to make an examination per vaginam, and I must confess that I was startled at what I discovered, expecting every instant, from the intensity of the contractions of the uterus, that this organ would be ruptured in some portion of its extent. I could distinctly feel a solid, resisting tumor at the superior strait, through the walls of the uterus, *but could detect no os tincæ.* In carrying my finger upward and backward toward the cul-de-sac of the vagina, I could trace two bridles, extending from this portion of the vagina to a point of the uterus, which was quite rough and slightly elevated; this roughness was transverse in shape, but with all the caution and nicety of manipulation I could bring to bear, I found it impossible to detect any opening in the womb. In passing my finger, with care, from the bridles to the rough surface, and exploring the condition of the parts with an anxious desire to afford the distressed patient prompt and effectual relief, I distinctly felt cicatrices, of which this rough surface was one. Here, then, was a condition of things produced by injury done to the soft parts at some previous period, resulting in the formation of cicatrices and bridles, and likewise in the closure of the mouth of the womb. At this stage of the examination, I knew nothing of the previous history of the patient more than I have already stated, and the first question I addressed to her was this; "Have you ever had any difficulty in your previous confinements? have you ever been delivered with instruments?" &c., &c. She distinctly replied that her previous labors had been of short duration, and that she had not been delivered with instruments, nor had she ever sustained any injury in consequence of her confinements. Dr. Vermeule informed me that this was literally true, for he had attended her on those occasions. This information somewhat puzzled me, for it was not in keeping with what any one might have conjectured, taking into view her actual condition, which was undoubtedly the result of direct injury done to the parts. I then suggested to Drs. Vermeule and Holden the propriety of questioning the patient still more closely with the hope of eliciting something satisfactory as to the cause of her present difficulty, remarking, at the same time, that it would be absolutely necessary to have recourse to an operation for the purpose of delivering her. On assuring her that she was in a most perilous situation, and, at the same time, promising that we would do all in our power to rescue her, she voluntarily made the following confession.

About six weeks after becoming pregnant, she called on the notorious Madame Restell, who, on learning her situation, gave her some powders with directions for use; these powders did not appear to produce the desired effect. She returned again to this woman, and asked her if there was no other way to make her miscarry. "Yes," says Madame Restell, "I can probe you; but I must have my price for this operation." "What do you probe with?" "A piece of whalebone." "Well," thought the patient, but without expressing it, "I cannot afford to pay your price, and I will probe myself." She returned home and used the whalebone several times; it produced considerable pain, followed by a discharge of blood. The whole secret was now disclosed. Injuries inflicted on the mouth of the womb by these violent attempts had resulted in the circumstances as detailed above. It was evident from the nature of this poor woman's sufferings and the expulsive character of her pains, that prompt artificial delivery was indicated. As the result of the case was doubtful, and it was important to have the concurrent testimony of other medical gentlemen, and as it embodied great professional interest, I requested my friends Drs. Detmold, Washington, and Doane, to see it. They reached the house without delay, and after examining minutely into all the facts, it was agreed that a bi-lateral section of the mouth of the womb should be made. Accordingly without loss of time (she then having been in labor twenty-nine hours), I performed the operation in the following manner. The patient was brought to the edge of the bed, and placed on her back. The index finger of my left hand was introduced into the vagina as far as the roughness, which I supposed to be the seat of the os tincæ; then a probe-pointed bistoury, the blade of which had been previously covered with a band of linen to within about four lines of its extremity, was carried along my finger until the point reached the rough surface. I succeeded in introducing the point of the instrument into a very slight opening, which I found in the centre of this surface, and then made an incision of the left lateral portion of the mouth; and, before withdrawing the bistoury, I made the same kind of incision on the right side. I then withdrew the instrument, and in about five minutes it was evident that the head of the child made progress; the mouth of the womb dilated almost immediately, and the contractions were of the most expulsive character. As there seemed, however, to be some ground for apprehension that the mouth of the uterus would not yield with sufficient readiness, I made an incision of the posterior lip through its centre, extending the incision to within a line of the peritoneal cavity. In ten minutes from this time, Mrs. M. was delivered of a vigorous, full grown child, whose boisterous cries were heard with astonishment by the mother, and with sincere gratification by her medical friends. The expression of that woman's gratitude, in thus being preserved from what she and her friends supposed to be inevitable death, was an ample compensation for the anxiety experienced by those who were the humble instruments of affording her relief. This patient recovered rapidly, and did not, during the whole of her convalescence, present one untoward symptom. It is now ten weeks since the operation, and she and her infant are in the enjoyment of excellent health. I omitted to mention that the urethra was preternaturally dilated. I introduced my finger as far as the bladder without any consciousness on her part, such was the degree of its enlargement.

About ten days after the operation, Dr. Forry visited this patient with me, and heard from her own lips the narration of her case, so far as her visit to Madame Restell is concerned, and which I have already stated. On Saturday, January 20th, Dr. Forry again accompanied me on a visit to this woman, and a vaginal examination was made. The mouth of the womb is open, and will permit the introduction of the end of the fore-finger, and the two bridles are distinctly felt, extending from the upper and posterior portion of the vagina to the posterior lip of the os tincæ, which they seem firmly to grasp. The urethra is still very much enlarged, and somewhat tender to the touch.

At my last visit to this patient with Dr. Forry, she made some additional revelations, which I think should be given not only to the profession, but to the public, in order that it may be known that, in our very midst, there is a monster who speculates with human life with as much coolness as if she were engaged in a game of chance. This patient, with unaffected sincerity, and apparently ignorant of the moral turpitude of the act, stated, most unequivocally, to both Dr. Forry and myself, that Madame Restell, on previous occasions, had *caused her to miscarry five times*, and that these miscarriages had, in every instance, been brought about by drugs administered by this trafficker in human life. The only instance in which medicines failed, was the last pregnancy, when, at the suggestion of Madame Restell, she probed herself, and induced the condition of things described, and which most seriously involved her own safety, as well as that of her child. In the course of conversation, this patient mentioned that she knew a great number of females who were in the habit of applying to Madame Restell for the purpose of miscarrying, and that she scarcely ever failed in affording the desired relief. Among others, she cited the case of a female residing in Houston-street, who was five months pregnant; Madame Restell probed her, and she was delivered of a child, that, to use her own expression, "kicked several times after it was put into the bowl." It, indeed, seems too monstrous for belief that such gross violations of the laws both of God and man should be suffered in the very heart of a community professing to be Christian, and to be governed by law and good order. Yet these facts are known to all who read. This creature's advertisements are to be seen in our daily papers; there she invites the base and the guilty, the innocent and the unwary, to apply to her. She tells publicly what she can do, and, without the slightest scruple, urges all to call on her who may be anxious to avoid having children. Here, then, is a premium offered for vice, to say nothing of the prodigal destruction of human life that must necessarily result from the abominations of this mercenary and heartless woman.

With all the vigilance of the police of our city, and with every disposition, I am sure, on the part of the authorities to protect public morals, and bring to merited punishment those who violate the sanctity of the law, this Madame Restell, as she styles herself, has as yet escaped with impunity.

Occupying the position I do, and fully appreciating the important trusts confided to my care in connection with the department over which I have the honor to preside in the University, I have felt it to be a duty I owe to this community, to the profession, and to myself, publicly to expose the facts of this case; and I fervently hope that the disclosures here made may tend to the arrest of this woman, and the infliction of the severest penalty of the law.

In a professional point of view, this case is not without interest. It must be evident to all that, without the operation, the patient must have sunk. She had been in labor precisely twenty-nine hours when I made the section of her womb; and, for twenty hours previously, the contractions were most energetic, possessing all the characteristics of true expulsive pains. But yet, with all this suffering, not the slightest change had been effected in the parts. If, therefore, nature had been competent to overcome the resistance, sufficient time was allowed for this purpose. Longer delay would undoubtedly have placed the life of both mother and child in severe peril; for, from the reiterated, but unavailing, efforts of the womb, there was reason to anticipate rupture of this organ, which would most probably have compromised the life of the mother; while, at the same time, the child was exposed to congestion from the constant pressure exerted on its head by the contractile force of the uterus.

I am not aware that this operation has been previously performed in this country; at least, I have found no record of it. It has, on several occasions, been resorted to in Europe, but not always with success.

Art. VII.—*Some Cases of a Rare Form of Exanthem.* By Alexander S. Wotherspoon, M. D., Assistant Surgeon U. S. Army, and Late Resident Physician to the New York Hospital.

In the course of a three years' connection with the New York City Hospital, it was my lot to witness, each succeeding winter, a simple case of a very remarkable and peculiar form of Exanthematic disease, characterized by intense violence, a rapid succession of the symptoms, and a uniform fatality. Attracting the attention of all, the opinions expressed as to its nature were equally various, thus rendering an inquiry into its true character, to me at least, a matter of the greatest interest and importance. I could find, however, no one, even among those whose experience had afforded the most extensive opportunities of observation, who could give me the necessary information, or who could refer me to works containing a description of the disease. Forced to investigate for myself, I consulted most of the more common treatises on diseases of the skin with but little success, meeting now and then a few obscure hints evidently showing that such an affection had been previously met with. Not one of these authors, however, described it with accuracy or spoke of it from personal knowledge. Nor could I, in searching carefully all the various medical journals in the Hospital Library of over five thousand volumes, discover more than two recorded cases at all resembling the disease in question. From this I concluded that the disease was of very rare occurrence, and that perhaps a detail of the three Hospital cases, together with such others as I should be able to obtain, would not only be interesting, but might perhaps, at some future time, become of practical value to the profession. My own observations, which were made at the bed-side, will doubtless appear to many as imperfect in some points, as they are unnecessarily minute in others; but, as regards their minuteness, an anxious desire that nothing should be omitted calculated to throw the least degree of light on the nature of so very obscure a malady, must be my apology. Autopsies were fortunately obtained in all the cases, though such was the disagreeable impression created by the awful nature of the symptoms, and the rapid and terrible progress of the disease, that it was only with the greatest difficulty that I could obtain either permission to make, or assistance in conducting, the examinations.

With these preliminary remarks, I may now enter upon a detail of the cases.

Case I.—James Hill, a remarkably strong and muscular young man, about twenty-three years of age, was admitted into the sixth ward of the Marine Hospital, January 8th, 1841. He is a Norwegian by birth, and of rather intemperate habits; he has been employed as ordinary seaman on board of a coaster, plying between Charleston and this port. He has been a month ashore. Four days since he was suddenly attacked by severe cutting pains in the small of the back, so acute and attended with such a feeling of weakness that he was compelled immediately to take to his bed. He has been feverish, has lost his appetite, and for the last three days has been unable to keep anything on his stomach. His bowels have during this time been constipated.

When admitted at twelve M., his face, neck, and whole body, were of a purplish red color, deeper in some parts than others, particularly about the face and neck. Over the chest, abdomen, upper and lower extremities, were thickly scattered numerous superficial spots of a beautiful red and purple color, of the size of small shot, perfectly distinct and not disappearing on pressure. A few others of the dimensions of a sixpence, were seen upon the sides of the trunk, apparently deeper seated and of a light blue color, having very much the appearance of old contusions. Until to-day, he has never observed either of these eruptions. The face appears swollen, and a few small vesicles are seen scattered over its surface. There is considerable effusion of blood below the conjunctiva, and such a copious secretion of the lachrymal fluid, that it flows over the eyelids, streaming down the cheeks. His tongue is covered with a remarkably thick pasty white fur, which also appears to coat the gums and the roof of the mouth. He has no appetite, complaining of constant thirst and an inclination to vomit whatever he swallows. Deglutition is easy and unattended with pain. There is no swelling or tenderness of the abdomen. His bowels have not been opened for three days. He is remarkably restless and uneasy, sighing frequently. Pulse 120, of a natural volume. Intelligence good, answering questions with readiness.

7 P. M. About an hour ago, his bowels were freely opened by an eccoprotic mixture. The stools were natural, but no material change in his condition followed. He has just had another evacuation, the fæcal matter being of a reddish color from intermixture with blood.

Very soon after this he became very violent, throwing himself about on his bed, crying out aloud for water, and declaring that he was "burning up inside." He drank with the utmost eagerness all that he could obtain. The general congestion of the surface increased, the heat of the skin at this time being very great. The purple spots increased in size; and on the upper part of the body, the epidermis was raised into small blisters, by effusion of sanious fluid or thin blood. Some of these burst open and bled freely. A considerable hemorrhage, at the same time, commenced from an old wound on his finger. The vesicular eruption made no further progress. He died about 9 P. M., his intelligence remaining unimpaired until near the last.

Sectio-Cadaveris, 16 *hours after death.*—The exterior of the body was of a general dark purplish tint. Of the superficial red and purple spots, but very few traces were left, but the larger and deeper seated ones were increased both in size and number. In the axillæ, and on the surface immediately adjacent, were vibices, forming linear blisters of considerable size, filled with bloody serum; and in the cellular tissue of the neck there was considerable effusion of sanious fluid.

Head.—The whole surface of the brain was covered with a layer of sanious fluid which filled the cells of the pia mater; the vessels generally were filled with blood; and the substance of the brain was soft, and covered with numerous red points when cut.

Chest.—The large vessels were distended with great quantities of a thin, watery, dark reddish blood, containing a few small black and friable coagulæ. The parenchyma of the lungs and the lining of the bronchial tubes were of a general red color, from imbibition of blood. The tissue of the organs was not particularly softened; but the heart did not possess its usual firmness, being quite flabby, and the walls of the left ventricle collapsing when it was laid upon the table. The whole of its lining membrane, as well as that of the aorta to its bifurcation, was stained of a uniform dark-red color.

Abdomen.—The liver was of a dark grey color, and full of blood. In two spots there had been an effusion into the parenchyma of the organ, forming a sort of apoplectic condition. The gall-bladder contained a quantity of green, watery bile. The substance of the kidneys, the lining membrane of the calyces, of the pelves, the ureters, and bladder, were of a more or less red hue, from extravasation of blood and its imbibition by the tissues. Beautiful purple and blue spots were found on the mucous membrane of the alimentary canal, being particularly remarkable in the stomach near the pylorus, and in the transverse and descending colon. The glands of Peyer and of Brunner were much developed in the ileum, near the ileo-cœcal valve.

Case II.—Thomas Godfrey, a very athletic man, æt. 27, born in Connecticut, was admitted into the Marine Hospital, January 5th, 1842. He complained chiefly of an unusually severe pain in the small of his back, shooting forward to the abdomen and down the thighs. There was some excitement of pulse; also hot skin, thirst, and loss of appetite; his tongue was covered with a moist white fur; and there was considerable prostration of strength. He says that while coming down the Hudson last night in the vessel to which he was attached, he was exposed to the rain, causing him to become very wet and chilly; and that early this morning, he assisted in unloading the schooner, still having on him the undried clothes he had worn during the night previous. Although he soon began to complain of pain in his back and general weakness, yet he was able to carry 150 bushels of oats from the vessel some distance on the wharf, before 12 o'clock. By this time, the pain became so severe, that he was compelled to give up working, and take to his bed. He says that his general health has always been good, that he is usually very temperate in his habits, and that he has not, as far as he himself knows, been exposed to the contagion of small-pox or scarlet fever.

January 7.—The pain in the back has been considerably alleviated by cups to the part; the blood having oozed so freely from the scarifications, that it was absolutely necessary to check it by compression. He still continues feverish, with a full, hard, and slightly frequent pulse, notwithstanding he has been using an antimonial solution. Bowels were freely moved during the night. This morning, for the first, an erythematous blush was observed upon the face and upper part of the chest. He complains of slight soreness of the throat.

January 8.—By the afternoon of yesterday, the erythema had extended over the whole body; the soreness of the throat increased, and he expectorated some bloody mucus. The reddish blush continues this morning, the skin being remarkably hot; and when the hand is passed over it, a rough sensation is experienced, as if a crowded eruption of minute papulæ was about making its appearance. On the upper part of the chest is a number of small purple spots of the size of a pin's head. Tongue is loaded with a thick moist white coat; teeth and lips covered with sordes; and he complains of sore throat, the tonsils and fauces appearing rough and covered with dark bloody red points, accompanied by some cough with expectoration of bloody mucus. Pulse is softer and more frequent.

January 9.—At 12 M., he was in the following condition. The whole of the trunk, the superior and inferior extremities, are of a universal purplish red tint, the color being deepest upon the abdomen and chest. The face, paler than the rest, has a swollen and puffy appearance; and he says that he feels quite stiff. The eyelids are ecchymosed, and the forehead has a deep bluish purple tint. Over the whole external surface of the body, are minute elevations, packed closely together, but not assuming any determinate form. They are of various colors, from that natural to the skin, to a deep red or purple. By allowing the light to strike the limbs in a oblique direction, they are seen to be distinctly vesicular; and, when slightly pricked with a fine cambric needle, a clear, transparent, or sanious fluid exudes, according to the previous color of the vesicle. Spots of a deep red and purple color, are scattered over the whole body, but most numerous and most vivid on the legs and thighs. There are also on the hands, chest, and limbs, a few dark blue elevations, three to four lines in diameter, but of no regular shape, evidently caused by effusion of blood immediately beneath the epidermis. Some of these which have broken, discharge a dark sanious fluid. The general heat of the skin is not very remarkable. There has been so much effusion of blood under the left conjunctiva, that the eye appears to be swimming in that fluid. He repeatedly clears his nostrils of mucus of a reddish tinge, and is continually hawking up large quantities of bloody fluid. His lips are dry, swollen, and stiff, covered with dark blackish scales; but his gums are unaffected. Tongue still with a thick dirty white coat. He complains very much of his throat, swallowing with great pain and difficulty. He is much troubled with an intense craving for cold water; but he has not vomited, notwithstanding he feels pain when pressure is made upon the epigastrium. His bowels were opened several times last night, but the evacuations are not bloody. He is perfectly rational; he does not complain of headache, and he has not, at any time, been delirious. A peculiarly disagreeable cadaverous odor is emitted from his body, filling the whole ward. Pulse is 130, feeble, and soft. Stimulants have been administered.

In the afternoon he began to sink rapidly, his pulse becoming more frequent and feeble, and his extremities cold. The bleeding purpuric spots increased in number, and the hemorrhage from the throat continued. About an hour before he died, he vomited a couple of pints of blood mixed with a little mucus. He died at 11 P.M., slightly delirious.

Autopsy twelve hours after death.—The body was quite rigid. The general purplish red hue, so remarkable before death, had all disappeared; but the purple blotches still remained, though of nearly a black color. The epidermis can be raised with the greatest ease, light friction with the finger being sufficient to separate it from the layers beneath. When removed, the rete mucosum was found very moist, and covered by extravasations of blood, varying in size from that of a pin's head to that of a pea. The sub-cutaneous cellular tissue was, for the most part, free from effusions.

Head.—On making the usual incision from ear to ear, to expose the scull cap, a sudden gush of bloody serum took place, proceeding from an extravasation, as large as the palm of the hand, over the right temporal fascia. The membranes of the brain were quite healthy, but its veins generally were turgid with black blood. The cerebral substance was of a natural consistence, presenting, when sliced, numerous bloody points. About an ounce of fluid was found in the ventricles.

Chest.—The muscles of the chest and neck were firm, red, and healthy. The velum pendulum palati, tonsils, posterior walls of the pharynx, the root of the tongue, and the epiglottis, were all of a deep purple and nearly black color. This extended to the lining membrane of the minor surface of the larynx and upper part of the trachea, becoming gradually of a brighter red as the bifurcation was approached. This color pervaded the entire substance of the mucous membrane, which was evidently thicker than natural. Both lungs presented a mottled appearance from bloody effusions in the sub-serous cellular tissue; and, when cut, distinct lobules were seen, firm, granulated, and of a deep black color, having the same appearance as in pulmonary apoplexy. The intervening portions of the parenchyma were of a brick-red color, crepitating when pressed, and nearly in the natural condition. The mucous membrane of the brochi was reddened. The cavities of the pleura contained a small quantity of bloody serum. The heart was perfectly natural, with no softening of its muscular walls, and no staining of the lining membrane. When the large vessels were divided, more than a pint of thick black clotted blood poured out into the cavity of the chest.

Abdomen.—Æsophagus healthy. The pyloric half of the stomach presented a very beautiful appearance, being covered with crimson and purple spots. The consistence and color of the mucous membrane, otherwise, were perfectly natural. In the duodena were several red patches. The last three feet of the mucous membrane of the ileum were roughened by small hypertrophied glands of a grey color, which projected above the surface of the lining tissue. The mesenteric glands were not enlarged, but of a purple hue, generally. Liver and spleen normal; gall-bladder distended with a yellowish watery bile; kidneys and ureters healthy; as was also the bladder, except the portion near the opening of the urethra, which presented a few purpuric spots.

Case III.—John McCoddy, a very athletic young Irishman, æt. 18, was admitted into the New York Hospital on the 7th of February, 1843. He was suddenly seized about three days before admission, by severe cutting pains in the small of his back, passing forward to the abdomen, by slight headache, and by such complete loss of strength that he was compelled, from the very first, to take to his bed, which he never left alive. The disease was not ushered in by any regular rigors, but by a few creeping chills soon succeeded by violent fever. Of temperate habits, he was attacked without any obvious cause, while enjoying apparently, the best of health. He has not been exposed to any contagious disease that he is aware of; and he says that he was vaccinated when young, of which a quite distinct scar still bears evidence.

At present, he is remarkably restless and uneasy, continually changing his position in bed, without, however, complaining of severe pain in any part. His intelligence is perfect. The integuments of the head, neck, hands, and feet, are of a uniform purplish red color; but the redness disappears on pressure, and again returns when removed. On the abdomen, chest, and thighs, are numerous small distinct circular spots of a deep crimson or purple color, persistent, generally, when pressed by the finger, but not elevated above the level of the surrounding skin. Several of a much larger size, some three or four lines in diameter, are seen upon the sides of the abdomen, apparently deeper seated, and of a blue color, as though the parts had been contused. Skin generally quite hot, much more so than natural. The vessels of the conjunctiva distended with blood, giving the membrane a dark red hue. Tongue covered with a thick, pasty, white coat, inclining to become dry in the centre. Throat, though he complains of no soreness, of a dark red color. There are also present, a constant feeling of nausea, intense desire for cold drinks, entire loss of appetite, sense of tightness across the epigastrium, and constipated bowels. Pulse 96, and of good strength. He was bled before admission. Ordered calomel, grs. x., to be followed by a saline cathartic.

February 8.—Passed a very restless night, during which his bowels have been opened several times, the stools being thin, very liquid, and of a blackish brown color. He now complains of slight headache, without dizziness, his intelligence continuing good. His lips are rather dry. Gums pale, neither spongy nor swollen. His tongue still covered with a thick dirty white coat. He has hawked up a good deal of slimy mucus streaked with florid blood. The tonsils and uvula are slightly swollen, of a deep reddish black color, and are covered with a layer of bloody mucus. Abdomen rather full and a little tympanitic; some tenderness, on pressure, in the epigastric and right hypochondriac regions. The purplish blush still continues, without spreading further on the trunk; but the crimson and purple spots are more numerous, of a deeper color and larger size, and more persistent than before. The breathing is hurried, irregular, and about 36 in a minute. The chest gives a good sound on percussion, the respiratory murmur being natural, with an occasional sonorous rhonchus. Skin still remains above the natural temperature, pulse 108, good strength and full. A remarkable fœtor exists about the bed, exactly similar to that which was remarked in the previous cases. Hirud. Med. ad epigast.

5 P.M.—Is now sinking fast; the extremities are cool; the rash, which has lost its bright hue, has assumed a deep livid tint. Effusion of blood has taken place under the left conjunctiva; and the purpuric spots generally have increased in size. Pulse over 160, and hardly to be felt. Hemorrhage continues from the throat, but none from any other part. He died a few minutes after the visit.

Necropsy, eighteen hours after death.—The body generally is of a livid hue, the color remaining the deepest about the head, neck, and extremities. Putrefaction had already begun in the abdominal walls, which were of a green color. The remains of the purpuric spots were seen particularly upon the abdomen and chest. The sub-cutaneous veins were very distinct, there having been oozing of blood through the walls, staining the adjacent tissues. There was but little rigidity except in the lower extremities.

Head.—The scalp was of a general red color, from imbibition of blood by the tissues; and the veins generally were filled with blood of a deep cherry red color. The substance of the brain was rather softer than natural, presenting the usual red points when cut by the knife.

Chest.—The muscles of the trunk generally were of a blackish red color, quite soft and easily torn. The large veins proceeding to the heart were distended with blood, of a deep cherry-red color and uncoagulated. Heart very flabby, its tissue being soft; internally, the valves and lining membrane, as well as that of the aorta, were stained of a deep red color from imbibition of blood. Both lungs were congested and softened throughout their whole extent, containing an abundance of frothy serum; and a few purple spots of small size were scattered over their surface, from extravasations into the sub-pleural cellular tissue. The bronchial tubes, which were red, contained some frothy bloody mucus. The uvula, tonsils, and adjoining parts, were slightly swollen, of a deep purplish, black color, and covered with a tough bloody mucus. When laid open, the parts were found infiltrated with blood.

Abdomen.—About two or three ounces of bloody serum were found in the cavity of the peritoneum. The liver was soft and flabby, of a natural size, and of a brownish grey color; the gall-bladder contained a little greenish bile. The stomach and the small intestines generally were stained of a red color by the blood exuding through the walls of the vessels. Numerous crimson and purple spots were found upon the mucous membrane of the stomach, and the lower part of the ileum and cœcum. Near the ileo-cœcal valve, both the aggregated and solitary glands were distinctly enlarged, the glands of Brunner projecting, like small beads, above the mucous membrane. In the large intestine, the fœcal matters were stained with blood. The kidneys were large and flabby, and the cortical substance was quite red; and some extravasations of blood were found beneath the lining membrane of the calices. The bladder, like all the other organs, was soft and stained with blood. The tissue of the spleen had degenerated into a reddish pulp. The mesenteric glands, corresponding to the enlarged plates, were increased in size, softened, and of a deep, blackish red color.

No one, it is fair to presume, who has carefully read over the detailed symptoms of the three preceding cases, will hesitate a moment in pronouncing them strongly marked specimens of one and the same disease. Strong, athletic men, in the prime of life and in the midst of apparently perfect health, it has been seen, are suddenly seized with slight, creeping chills, and forthwith violent acute pains in the small of the back; and so complete and immediate is the prostration of strength, that they are compelled to leave their employments and to take to their beds. Fever succeeds, with loss of appetite, the most intense and distressing desire for cold drinks, accompanied with nausea and other symptoms of gastric irritation. There are also much anxiety, sense of tightness across the epigastrium, sighing, continual restlessness, and constant wish for a change of position. After suffering in this way during thirty-six or forty-eight hours, a purplish red rash begins to appear upon the face and extremities, which gradually diffuses itself over the neck, limbs, and trunk, until the whole cutaneous surface becomes of a uniform deep red hue. The skin, however, is not alone affected, as the mucous membranes also participate in the universal congestion; the vessels of the conjunctiva are seen to form a dark red net-work around the cornea, while the throat assumes the same hue or becomes covered with numerous red points. Spots of various dye, red, crimson, purple, and blue, appear over the surface of the body, arising from a rupture of the minute vessels, or from the passage of the blood through their walls, into the various surrounding tissues. Numerous minute vesicles also appear, containing limpid or bloody serum; and traces of a similar eruption are seen, promising to cover the whole body. The same congestions and the like rupture of the vessels, have been simultaneously occurring in and upon the lining membranes of all the deeper seated hollow organs, and even the different excretions begin to be tinged with blood. After the appearance of the eruption, these patients have been comparatively comfortable, owing to a cessation of the agonizing pain in the small of the back, though still tormented with a constant desire for a change of position. During this time they are perfectly rational, and in the full enjoyment of all their senses.

The fourth or fifth day of the disease arrives, and our patients have evidently, in spite of all treatment, been growing worse and worse. The deep purplish red color still continues. The effusions of blood have increased in size and number. The conjunctiva from extravasation of blood, becomes of one uniform red color; and it is raised around the cornea into a sanguineous chemosis; the whole giving a very peculiar and ferocious aspect to the countenance. An intolerable, sickening, cadaverous fœtor arises from the body and diffuses itself throughout the apartment. Hemorrhage takes place from the skin, the nostrils, the mouth; the blood comes, in fact, from every outlet, staining every excretion of a more or less deep red hue. The extremities at last become cold, the pulse beats more and more frequently, and with less and less force, slight delirium supervenes, and death, sooner or later, apparently not so much from the loss of blood, as from a complete and overpowering exhaustion of the whole nervous system, closes the unhappy scene.

On a post-mortem investigation, we find evidences of congestions and effusions of blood in every organ, general softening of all the parenchymatous and muscular tissues, and a peculiar alteration of the blood, by which it becomes changed into a dark cherry-red watery fluid, containing a few thin friable black coagulæ, a condition described by the older writers, and by them denominated "a putrescent state."

What, then, is the true nature of this terrific disease? My own conviction is that it is a rare form of variola; and to this conclusion, I have been led by the following considerations:

1st. The character of the premonitory symptoms.

2d. The character of the eruptions and the peculiar variolous fœtor.

3d. Passages in the older writers, showing that they had recognized and partially described a form of small-pox, closely resembling this in many particulars.

1. *The Premonitory Symptoms.*—If we compare the signs usually laid down in our standard works as prognostic of small-pox, with those

that ushered in the cases we have just detailed, we find them all present in a more or less marked form. We have the severe cutting pain in the back, the sickness at stomach, the præcordial anxiety, the prostration of strength, and the non-appearance of the eruption until the forty-eighth hour. So similar, indeed, are they, that were we to form our judgment from the premonitory symptoms alone, the diagnosis would appear remarkably easy.

2. I propose to consider separately the character of the purplish red rash, that of the vesicular, and that of the purpuric eruptions.

It is to the anomalous character of this purplish red rash, that we owe most of the difference of opinion expressed in regard to the nature of this affection; for many were consequently induced to look upon it as nothing more nor less than an unusually malignant form of scarlatina. This, among others, was the view taken by Dr. Pond, whose case I shall now give as it was published in the New York Medical Gazette, under the title of "A Case of Scarlatina Complicated with Purpura Hemorrhagica." Dr. Pond founded his diagnosis principally upon the character of the eruptions, and upon the fact that very soon after his patient's death, several other members of the same family were successively attacked by a scarlet fever, concerning the true nature of which there could not be the slightest doubt. The case, however, is precisely analogous in every respect to those which occurred in the Hospital; and it was pronounced to be the same disease, by several physicians who had witnessed both. It is a little singular, too, that the only two other published cases which I have been able to find, after carefully searching a large number of medical journals, should both have been considered as cases of scarlet fever, notwithstanding in the second of these last, the variolous eruption was so marked as not to admit of the least doubt of its simultaneous occurrence.

Case IV.—" *A Case of Scarlatina Complicated with Purpura Hemorrhagica, by James V. Pond, M. D.*—On the 12th of January (1842), about one o'clock P. M., I was called to see A. B., Esq., æt. 34, of intemperate habits, with a deeply scarlet, nearly purple countenance. The surface of the body also scarlet, though of not so deep a tinge, yet nearly that of a boiled lobster shell; the limbs completely suffused, though of a still lighter color. I was informed that he had been ill since the day previous, or that he had not been quite well for two days. On more particular inquiry, I ascertained that he had, as the attendant informed me, been laboring under a cold for four or five days. His tongue was moist, red at the end and edges, and covered with a fur of a lightish hue. The fauces and tonsils were considerably tumefied, and of a deep scarlet appearance, yet deglutition was little if at all impeded. The pulse was full and round, though not very hard or difficult of compression, about eighty-five or ninety beats per minute. The patient complained of severe pains in the lumbar region, but suffered from no other distress. As he was desirous to know the name of the disease, I did not hesitate, with such unequivocal appearances, to pronounce it scarlatina. I was aware that pain in the back was not pathognomonic of such a disease, but I accounted for that symptom from his frequent attacks of lumbago, by which he had formerly been often and severely afflicted. There had been no alvine evacuations for the preceding thirty-six hours. I directed ten grains of the proto-chloride of mercury, slightly nauseating doses of tartarized antimony, and diluent ptisans. On my visit the next morning, I found the cathartic had produced two free evacuations, which were followed by entire relief from the pain in his back; but the eyes, which yesterday showed signs of very moderate vascular excitement, were now highly inflamed, the vessels of the selerot portion of the conjunctiva being much distended, presenting the appearance, at a little distance, of gores of blood. The suffusion of the face, and indeed of the entire surface, was rather deepened, yet the pulse was of the same speed and feel as on my first visit, but the artery was perhaps a little more easily compressed. There was very little thirst or desire for any ingesta, and the patient said he felt well. Astringent gargle, &c.

"At one o'clock next morning I received a message from the family, stating that the patient was worse, and soliciting my immediate attendance. I found that the pain in the loins had returned, and that he was in a tossing and restless condition. There had been two evacuations of blood from the urethra, each of which, over a pint, had coagulated as perfectly as if it had been drawn from the arm. The pulse had become sensibly accelerated and weakened from such a loss. The face was of not quite so deep a purple; and there was observable upon the hands and arms petechial spots, which, however, produced no elevation of the cuticle. At nine in the morning I again saw the patient, whom I found refreshed with sleep and rest, having obtained entire freedom from pain by morphine. He, however, manifested signs of increasing debility, from the continued hemorrhage, having had two more discharges of blood from the bladder, amounting altogether since its commencement to over two quarts from this source alone. Blood was now also pretty freely oozing from the fauces, gums, and parietes of the mouth, sufficient to saturate a napkin or two. There was likewise a bloody weeping from the eyes. Some of the ecchymoses on the limbs, which were being filled with dark blood, had attained the diameter of one, two, or three lines. By puncture or pressure, the blood was readily discharged from them, but extravasation soon supplied the deficiency. These ecchymoses did not, however, assume a pustular appearance, for scarcely was there any elevation recognizable either by the eye or hand. From a wound on the hand, caused some three days before by opening oysters, commenced a gradual stillicidium of blood, the edges of the wound assuming a gangrenous appearance. The sanguineous discharge from this wound was soon arrested. On approaching near the bed-side, an unpleasant exhalation occasionally became manifest, reminding one of the fœtor of variola.

"During the day, a number of sanguineous discharges from the bladder occurred, and with each evacuation was the strength of the patient sensibly prostrated, while the diameter of the vibices was gradually being enlarged.

"The brain was not originally implicated, and did not at any time sympathize in the disease. The mental faculties were therefore perfect.

"In the evening I again saw, and remained with the patient to a late hour. There had been frequent and copious repetitions of the renal hemorrhages, and the bloody oozing from parts already named, had in no degree subsided. The pulse was more frequent, and evanescent, and he was exsanguinated and prostrated to almost the lowest degree of debility. I was much surprised to learn that, during my absence, he had made an autographic will of his property, and now requested me to witness it, observing that I was a very fit judge of his capacity to execute such an instrument.

"At nine A. M. on Saturday, 15th, I was informed that the hemorrhages continued during the night, and that near morning, by his desire, the attendants raised him to use the close-stool, on which he passed per anus a large amount of blood, followed by fainting; and that, soon after he was placed in bed, the scene was closed by death.

"The autopsy was conducted by Dr. S. A. Sabine. On opening the abdomen six hours after death, the bladder and kidneys were carefully removed. The latter were dark colored, congested, and softened, and the cellular tissue posterior to them was much injected with blood. On laying open the pelvis, they were found of a dark purple color, apparently from effusion of blood into the sub-mucous tissue. The ureters were normal, but the bladder on its inner coat was covered with spots of purpura. Spleen much congested, softened, of a dark purple color. The liver was natural, but on its convex surface was formed a vesicle of the size of a quarter dollar filled with bloody serum. The mucous coat of the intestines was beset with numerous dark vibices. A small portion of the lung was removed by an incision through the diaphragm. Its parenchyma was natural, but underneath the serous coat were formed the pervading vibices."

The next case is from Johnson's Medico-chirurgical Review, vol. 31, page 306. It is much to be regretted that it has been drawn up with so little attention to many very important particulars, the notes having evidently been transcribed from memory alone. Drs. M. Hall and Johnson, it will be seen, both concur in regarding it as a case of complicated scarlatina, forming their judgment from the appearance of the fauces when not covered with blood, and the absence of other characteristic symptoms.

Case V.—"*Purpura Hemorrhagica fatal in five days.*—Mr. Du B., æt 18, came home apparently well, on Friday the 21st December, and ate his dinner. In the night he was seized with a severe headache and rigor, and next morning Mr. Hodding gave him some calomel and a black dose. Next day (Sunday), he had another severe rigor with violent pains in the limbs, and that evening the face got red, but without any petechiæ. The redness spread downwards and petechiæ appeared upon the chest, and ultimately over the whole body, in the most intense manner, they being, in many places, so confluent as to resemble a black surface. The hemorrhage commenced the next day (Monday) from bowels, kidneys, throat, nose, and even the eyes, to a most frightful extent. Sulphate of magnesia and well acidulated infusion of roses were given so as to clear the bowels, and acids were freely exhibited, with the view of restraining the hemorrhages, but to no purpose. On Tuesday morning the patient was seen by Dr. M. Hall and Mr. Hodding. The case appeared to Dr. Hall to be a complication of malignant scarlatina with purpura hemorrhagica. A grain of the sulphate of quinine was ordered every hour, with mineral acids. Dr. Johnson saw the patient at three o'clock, and afterwards on the evening of the same day with Mr. Hodding. The spectacle on this day, which the patient exhibited, was truly awful. The features were so swelled and the face so covered with black coagulated gore, that no person could have recognized him. The blood was issuing from eyes, nose, mouth, bladder, and bowels. The skin was either black with confluent petechiæ exhibiting extensive tracts of ecchymoses, or densely covered with a dark petechiæ. The pulse was 120, and rather firm in the morning, the intellect clear, the tongue rather pale, as were the fauces when not covered with blood, and the fœtor from the breath was scarcely bearable. The chest was sonorous throughout, the breathing not laborious, the abdomen soft, and the skin not much above the natural temperature. Some sulphate of magnesia was given this day with the acid draughts, which cleared the bowels; and in the evening, as the pulse was flagging, the quinine was again resumed, with tincture of hops, beef tea, &c. The blood still continued to flow from all the mucous membranes in large quantities.

"At ten o'clock on Wednesday morning, the patient was found in a still worse condition than before. The pulse was quick and intermitting, the blood issuing from all the outlets, yet he had slept some, and he was able to get out of bed to the night chair. Port wine was ordered every hour, with powerful mineral acids and quinine. At four o'clock, the symptoms had rather increased, and at ten o'clock at night he expired."

The remaining case is extracted from the fifth volume of Ryan's Journal, where it is reported as occurring in the Clinique of M. Baudelocque, at the Hôpital des Enfans Malades. This case differs from the others in the eruption of purpura, commencing some weeks before the acute attack, and in the circumstance of gangrenous sloughs having been found in the throat after death; but it agrees with them in the remarkable coincidence of scarlet, purple, and vesicular eruptions, and in the general course and fatal termination of the disease.

"Basguyre, a boy of strong constitution, æt. 13, was attacked, in the middle of January last, with purpura hemorrhagica, which did not prevent him pursuing his usual occupations, until the 8th of February, when he was seized, on getting up one morning, with shivering, succeeded by heat, fever, general uneasiness, cephalalgia, pains in the limbs and lumbar region. In the course of the day bilious vomiting came on, and the next day cough, diarrhœa, and pain in the right side supervened.

"On the 10th he came into the Hospital with the following symptoms : Decuditus on the back, great depression, redness and tumefaction of the face, eruption of papulæ over the body, scarlatine redness of the body generally, confluent patches of purpura upon the neck, upper part of the trunk, and thighs. Skin warm, pulse 124, regular, and small. Respiration 32. Lips dry and chapped, breath fœtid, thirst excessive, anorexia, no vomiting, three liquid and bloody evacuations by stool, incessant dry cough, without any cause detectible by auscultation or percussion.

"12th. The variolous eruption has partially subsided, the papulæ on the face being scarcely visible. Some vesicles on the arms present distinctly the central depression. The scarlatina has assumed a purple hue, the purpura is unchanged. No pain in the abdomen, no nausea or vomiting. Other symptoms the same ; pulse 120, skin rather warm, and great depression. In the evening great agitation and violent delirium, lasting for the greater part of the night, then followed by excessive drowsiness.

"On the 13th, somnolency, cadaverous hue of the head, neck, and forearms. Neither of the eruptions can be distinguished on any of these parts. Orthopnæa, respiration 60, voice extinct, breath horribly fœtid, pulse small, thready, 184. The limbs still retain their warmth. Patient gradually sinks, and in three hours falls a victim to the disease.

"*Necropsy.*—The amygdalæ, velum palati, pharynx, and internal surface of the larynx, covered with a layer of brownish sloughs, exhaling a gangrenous odor. The parts underneath are of a violet hue. Around the glottis and on the tongue, are found some variolous pustules. The trachea and its ramifications contain a greyish fluid of a gangrenous smell, and their mucous membrane presents patches of ecchymoses. No remarkable appearance either in the lungs, pleuræ, or heart. The mucous membrane of the stomach covered with a multitude of small ecchymoses, resembling the stains of purpura upon the skin. The small intestines contain a greenish fluid, several lumbrici, also a few patches of ecchymoses. The glands of Peyer are prominent, greyish, and reticulated. The cœcum and transverse arch of the colon contain hard fœcal matter, two or three ecchymotic patches of the size of a sixpence. Liver of a light yellow color. Bladder distended with a great quantity of urine mixed with blood. The contents of the cranium healthy. This boy was of strong constitution, and no clue could be found to the attack of purpura, which preceded the invasion of the small-pox and scarlatina."

In two of the three hospital cases described by me, the red scarlet eruption was first observed, when it had already made some progress, on the fourth day of the attack, the period of their disease when they were taken into the wards. In the case of Godfrey, who was brought into the institution the morning after he was first affected, the purplish-red blush was seen to commence on the face and extremities, on the morning of the third day, differing in this from the characteristic rash of scarlatina, which is said to appear at the end of the first twenty-four hours ; and in none of the other cases is the eruption mentioned before the third day from the first attack. The color is not of a bright scarlet hue, but rather of a deep purplish brick-red color, entirely distinct from the livid appearance of the eruption in malignant cases of scarlet fever ; of which last I have witnessed, in the Hospital, two or three severe and fatal cases.

In one only of the Hospital patients was there any complaint of the throat, viz., a difficulty and soreness in the act of deglutition, arising from the intense congestion and infiltration with blood—phenomena more or less marked in every instance. In the case from Johnson's Review, the fauces were pale where not covered with blood. In the sixth case, there were said to be gangrenous sloughs; but it is only necessary to read the description of the necropsy, to see that these sloughs were nothing more nor less than the false membranes, now and then effused on the pharynx and adjoining parts, in cases of variola, while the fœtor of the breath arises from the same cause, as in all the other cases.

There were no elevated papillæ on the tongue, and none of the strawberry appearances, so common in scarlatina. In all the Hospital cases, on the contrary, this organ was covered with a remarkably thick white pasty coat.

But if this is not the eruption of scarlatina, to which, it must be allowed, it presents many resemblances, to what class does it properly belong?

There is a form of roseola most frequently observed in cases of inoculated small-pox, but which is also known to precede severe attacks of the natural variola, which is thus described by Wilson. "The period of its appearance was generally the second day after the invasion of the constitutional symptoms, and nine or ten after the inoculation. * * * * * typical roseola, the eruption first appears upon the face and upper extremities, extending by degrees to the trunk and lower limbs." "More unfrequently," says Rayer, "this form of roseola is characterized by an almost generally diffused efflorescence, slightly prominent in some points." He adds: "The eruption of small-pox is occasionally preceded by a very extensive erythematous efflorescence of the face and trunk, in which case it is always confluent." Roseola has been regarded as a favorable symptom in small-pox, as long as it retains the brightness of its hue; but, on the contrary, "if it be dark and purplish, it portends a severe eruption and dangerous consequences." Now, if we suppose this rose-colored efflorescence deepened in hue by the general tendency to congestion, and altered in color by the change in the circulating fluid itself, we find it agree remarkably well with the form of eruption in question.

Sydenham, speaking of the epidemic small-pox of the years 1667, 1668, and 1669, says: "The confluent form of small-pox occasionally shows itself similar to an erysipelas, or a morbillus; so like them, indeed, that unless the medical man be very familiar with these diseases, they cannot be distinguished,* at least, as far as regards their external appearances."

In the time of Sydenham, it must be remembered, no distinction had yet been made among scarlatina, measles, and roseola, all being included under the common term, morbillus.

Morton, in his work, De Variolis, speaks of this complicated eruption even more explicitly, mentioning, at the same time, both the presence of petechiæ and the certainly fatal result. "Efflorescentia, confluens et ubique rubedine saturata, more febris *scarlatinæ*, vel erysipelatosæ, universam fere cutem perfundens cum petechiis intermixtis, ultra maturationis diem, nulla medicorum arte, posse protelari significat."—*De Variolis*, p. 186.

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* "Variolæ confluentes, nunc Erysipelatis ritu, nunc morbillorum, erumpunt; a quibus non, nisi a medico in his morbis versatissimo, distinguuntur, saltem quoad faciem externam."—*Sydenham*, p. 99.

As regards the purpura, it is a mere complication, its presence being readily accounted for on a post-mortem examination; first, by the altered condition of the blood; and, secondly, by the general softening of all the tissues, which was very remarkable in two of the three hospital cases, and in which the minute vessels may be readily supposed to take part. And here it may be mentioned, that it is not an uncommon circumstance for pure cases of purpura febrilis to become complicated with a roseolous rash, generally commencing, in most of the cases, upon the extremities. Quite a number of these I came across while searching for those of the purpuric variola. A very severe case of this kind is recorded in the eleventh volume of the London Lancet, for 1834–35; and such an eruption occurred in the two very singular cases reported by Dr. Graves, in the eighteenth volume of the Dublin Journal of Medical Sciences, and which he considered examples of such a peculiar and distinct form of disease, as to entitle them to a new name, Exanthema Purpureum.

In two of the three hospital cases, a distinct vesicular eruption was observed; in the first, on the face alone, but in the second over the whole body. These vesicles were filled with limpid serum, or with fluid of various hues of red and purple, from mixture with blood. None of these vesicles progressed so far as to become distinctly umbilicated. This central depression was, however, marked as very distinct in the French case. Sufficient cause for want of maturation in the pustules is found in the depraved state of the vital fluid, and the consequent nervous exhaustion. In all probability, had it not been for these circumstances, the whole of the reddened surface would have been covered with a most copious eruption of confluent small-pox.

3. In none of the more modern English works, either in monographs or general treatises on diseases of the skin, have I been able to find more than a passing allusion to a form of variola, represented as very malignant, and characterized by the appearance of purpura, hemorrhages, and early death. The descriptions are very meager, vague, and unsatisfactory, no cases being given by these authors, who do not seem even to have ever seen a case of the disease.

Mead, in his Cure of Small-Pox, p. 24, speaks of this form of disease in the following words:

> "For I have seen, where at the very beginning, the pustules were so many small tubercles, full of blackish blood, resembling those raised on the skin when pinched by the forceps. And these were followed by an intermixture of purple and livid spots, such as physicians describe in the true plague. But it more frequently happens, that pustules coming out very thick the third or fourth day after, when they ought to fill, become livid and a little bloody, with black spots spread over the whole body, which forebode death in a day or two, because they are real gangrenes. It very often falls out at this time, that a thin, bloody fluid flows not only out of the patient's mouth, nose, and eyes, but also by every outlet of the body; but more especially by the urinary passages, through which it likewise issues sometimes in the first days of the distemper. These are manifestly of the confluent sort."

The following graphic description of a similar form of small-pox was furnished me by Dr. Peters, of this city, by whom it was translated from the German of Schonlein.

Variola Putrida.—In the first stage, already there appear signs of decompositions or putrefaction. The pulse is excessively irritable, and without strength. Hemorrhages from the nose, and even from the lungs, ensue, and, at times, blood exudes under the skin. The blood cast out is black and dissolute. The skin is burning hot; the urine decomposed, of an ammoniacal odor, and of a dark red color, owing to the presence of cruor in it. In the second stage, we find the same irregularity and sluggishness in the development of the exanthem, as in the nervous form; and either single vesicles or all of them are filled with a semi-transparent fluid, tinged with blood, or else with pure opaque blood, forming the so-called " Variola Sanguinea seu Variola Cruenta." Between the pustules, we find extravasations of blood beneath the skin, and ecchymoses. Even, at times, hœmopthalmos occurs, blood flows from the rectum, is expectorated from the lungs, and excreted with the urine. Meanwhile, the fever increases, the skin is burning hot, the heat at times confined to the trunk, while the extremities are cold. The tongue is dry, brown, and cracked; the pulse cannot be counted; and an extremely cadaverous odor diffuses itself around the patients. If the disease prove fatal in the first stage, no pustules may be discovered.

One extract more in conclusion, from Sauvages's Nosologia; and, in this description, no one can possibly fail to recognize the same disease.

" *Variola Miliaris.*—Petite vérole très discrète vesiculaire et pourprée.

" Hæc est altera discretæ malignæ varietas.

" Cognoscitur. 1. Ex pustularum majori distantia, minori numero. 2. Cum *purpura* et pustulis morbillosis accedunt vesiculæ densæ, minutissimæ. 3. Symptomata febris malignæ adsunt. 4. Quandoque pustulæ sunt in brachiis duæ vel tres, interea dum pectus miliari, aut *rubeoloso erysipelate* obsidetur, vel petechiis; dum vesiculæ miliares per artus disperguntur, et potissimum pectus obsident sero pellucido plenæ, quæque cutem tantum exasperant."—Vol. ii., p. 375. *Sauvages's Nosologia. Species et Genera Morborum.*

[Translation.]—*Miliary Variola.*—This is another variety of the malignant discrete form.

It is known. 1st. From the greater distance and lesser number of the pustules. 2d. From the very minute and crowded vesicles mixed with purpura and measles-like pustules (*pustulis morbillosis*). 3d. From the presence of the symptoms of malignant fever. 4th. And when the pustules upon the arms are only two or three in number, the breast is the seat of a miliary or reddish erysipelatous eruption (*rubeoloso erysipelate*), and while miliary vesicles are scattered over the limbs, then those seated on the breast are full of a pellucid serum, which merely roughen the skin.—*Sauvages's Species and Genera of Diseases*, vol. ii., p. 375.

Hence it follows that the disease under investigation, of which six cases have been presented, is a form of Variola, complicated with Roseola and Purpura Hemorrhagica, known to the olden writers under various names, as Variola Sanguinea, Cruenta, Maligna, Putrida, Miliaris, Hæmatodes, Confluenta Nigra, &c.; but which, at the present day, owing to causes which, without enumeration, must be obvious to all, is little recognized.

PART SECOND.

Critical Analysis.

ART. VIII —*Annual Reports of the Registrar-General of Births, Deaths, and Marriages, in England; First, Second, Third, and Fourth.* London, 1839, 1840, 1841, 1842. 8vo., pp. 1138.

It was a noble example that was set by England, in 1837, in the establishment of the "*Act for registering births, deaths, and marriages,*" including a registration of the causes of death. Voluminous annual reports have since regularly appeared; and this annual system of registration, in the importance of its results, has already repaid, more than tenfold, the trouble and expense that it has involved; proving alike invaluable to the philosopher, the physician and the political economist, to the statesman and the legislator. Its utility has been sufficiently established, on the ground alone that it has developed the true laws of population and of mortality, in connection with the value of life annuities and insurances, besides answering such other public purposes, as facilitating the legal distribution of property by proving the connection of families. Moreover, as the deaths and the causes of mortality are scientific facts, admitting of numerical analysis; and as medicine, like the other natural sciences, is beginning to substitute numerical expressions for vague conjectures, the registration has also already afforded rich contributions, both as regards the practice and the principles of medicine. The doctrine of averages thus applied has been not inaptly styled the mathematics of medical science. We may thus study the laws of vitality, and the variation of these laws in the two sexes at different ages; and we may also study, as regards the production of disease and consequent death, or the improvement of public health, the influence of climate, comprising locality, seasons, and all other physical agencies, as well as that of occupation and civilisation. Much light will thus be thrown upon many of the most interesting questions of social statistics. Nor are these data of value alone as regards the present day, but they will serve as the means of comparison in ages to come.

This point is still further illustrated, in the following extract, by the able William Farr, Esq., to whom the arrangement of this part of the report has been wisely entrusted.

> "One of the many obvious applications of the facts will be to the promotion of practical medicine. The extent to which epidemics vary in different localities, seasons, and classes of society, will be indicated by the registered diseases; and the experienced practitioner, wherever he may be placed, will learn to administer remedies with discrimination, and with due reference to the circum-

stances of the population. He will discover that the characters of diseases change, and will not treat a pneumonia in the same way in Whitechapel and in Westmoreland, if it appear, from the causes of death, that the diseases and constitution of the population present striking discrepancies. The modifications in the character of diseases, and in the medical treatment, are indicated perhaps more accurately by the prevailing epidemics than by either the temperature, the hygrometricity, or any other appreciable condition of the atmosphere; and it was Sydenham's doctrine, that the treatment of acute diseases should have a reference not only to the immediate symptoms, and to the seasons, but also to the epidemic constitutions of the year and place. A national system of registration like the present can alone indicate the characters of the diseases in every district; and determine how far the practice taught in the schools, or illustrated in crowded hospitals, and in the unhealthy parts of the metropolis, among the destitute poor, may require modification among other classes of society, and in other localities.

"The registration of the diseases of the several districts will furnish medical men with a series of valuable remedial agents. It will designate the localities where disease is most rife, and where there is the least tendency to particular classes of sickness and infirmity. In recommending a residence to patients the physician will find the registered causes of death an indispensable directory; and the utility of a sanitary map of the country, such as the returns will furnish, cannot fail to be felt in England, where a part of the population is constantly migrating from place to place in search of health. Much information has been collected respecting the influence of the English climate; but the facts will bring to light many salubrious spots hitherto unknown, and disclose the dangers which infest others unsuspected. Invalids resort to some unhealthy places; families carry their children in the autumn into districts where small-pox and measles are often epidemical, or go into parts of the country where, as the registration shows, bowel complaints and fevers are extraordinarily fatal.

"The registration of the causes of death, besides contributing to practical medicine, will give greater precision to the principles of physic. Medicine, like the other natural sciences, is beginning to abandon vague conjecture where facts can be accurately determined by observation; and to substitute numerical expressions for uncertain assertions. The advantages of this change are evident. The prevalence of a disease, for instance, is expressed by the deaths in a given time out of a given number living with as much accuracy as the temperature is indicated by a thermometer; so that when the mean population of the district is known, the rise and decline of epidemics may be traced exactly, and it will then be possible to solve the problem, whether certain tribes of epidemic disorders constantly follow others, in one determined series or cycle. Loose phrases are still current, for which numerical formulæ will be substituted. Sydenham, one of the most accurate of medical writers, in speaking of small-pox, employed such terms as these: (1661) 'It prevailed a little, but disappeared again.'—(1667-9) 'The small-pox was more prevalent in town for the first two years of this constitution than I ever remember it to have been.'—(1670-2) 'The small-pox arose; yielded to the dysentery; returned,' &c. &c. These terms admit of no strict comparison with each other; for it is difficult to say in which year the small-pox was most fatal, and impossible to compare Sydenham's experience thus expressed with the experience of other writers in other places and other ages; for 'prevailed a little,' 'raged with violence,' and similar terms, may imply either that small-pox destroyed 1, or 2, or 5, or 10 per cent of the population. The superior precision of numerical expressions is illustrated by a comparison of Sydenham's phrases with the London bills of mortality in the same years."—*First Annual Report*, pp. 86-7.

It is not our intention to review, at this time, these valuable records of facts in detail, for several reasons. Following this is an extended review of a "Report on the Sanitary Condition of the Laboring Population of Great Britain," in which very many of the results contained in these volumes are laid before the reader. Again, it is promised, in the last Report, that in the next one, will be considered more fully, in proportion to the increased accumulation of data, many of the deductions already made; and this Fifth Report may be here in time for our next number. Lastly, we have devoted not a little labor to a separate paper on these topics, which comprises many of the facts exhibited in these Reports, and which we design also to lay before our readers in some form. These are the reasons which influence our present decision.

A concise view of the public health in England, in the year 1840, as exhibited in the last annual Report, is furnished in the following condensed statement. Here, too, are presented the mean temperature of each month of the year, and also a comparison of the quarterly mortality since the beginning of the Registration, showing the relative influence of the seasons:

"The mean temperature of the year 1840 was 50° of Fahrenheit. It was 0°·8 below the mean annual temperature of the 10 years 1831–40, but higher than any year since 1835. The highest temperature attained in the year was 83°, the lowest was 21°. The atmosphere was slightly moister, and the fall of rain somewhat greater than the average. The temperature of each month is given below for the three years 1838, 1839, 1840, from the observations made at the apartments of the Royal Society.

MEAN TEMPERATURE.

Months.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
1838	31	35	44	45	53½	61	63	63	57	52	43	40½	48·9
1839	39	41	41	43	53	62½	62	62	58	51	46	40	49·9
1840	40	39½	39	48	. .	63	62	65	57	49	46	35	50·0
1831–40	38	40½	42	47	55	62	65	64	58	52	44½	41	50 67

"A comparison of the number of deaths registered in the four quarters of the corresponding years is exceedingly instructive.

Quarters ending	March 31st.	June 30th.	September 30th.	December 31st.
1838	98,114	90,810	72,791	80,816
1839	89,739	87,965	76,280	84,995
1840	98,843	90,339	80,820	89,630

"The mortality by all causes was higher in 1840 than in 1838, and considerably higher than in 1839. Out of 1,000,000 living in 1839, only 21,856 died; while in 1840, out of the same number living, 21,856—and 1,022 more—perished. Upon referring to the deaths by different classes of causes, it will be perceived that 626 of the excess (1,022) arose in the epidemic class of diseases; the remaining excess being distributed over all the classes, except that of the violent deaths, which diminished somewhat in each of the two last years.

"The deaths from *Small-pox* fell from 16,268 in 1838, to 9,131 in 1839, and 10,434 in 1840; the deaths from *Typhus* fell from 18,775 to 15,666 and 17,177. From both diseases the mortality was less in 1840 than in 1838, but greater than in 1839. *Hooping-cough* progressively declined from 9,107 deaths, to 8,165 and to 6,132.

"*Scarlatina* was the reigning epidemic of the year 1840. According to the theory of Sydenham, it would communicate its character to the acute diseases, and constitute the medical constitution of the year.

"The deaths from this severe epidemic were in the three years:—

1838.	1839.	1840.
5,802	10,325	19,816

"And the deaths by *Scarlatina*, out of 1,000,000 living, were in the same years 393, 683, 1,289. The epidemic was most destructive in the North-Western, North-Midland, York, Welsh, and Northern Divisions. In the North-Western Division (Lancashire, Cheshire), the annual mortality by scarlatina was 2·5 in 1,000; so that the mortality of children, who are the principal sufferers, must have been excessively high. The epidemic had not terminated, and we shall have in the next Report to trace its destructive course through another year, and in other parts.

"The deaths by *Diarrhœa*, *Cholera*, *Influenza*, and *Ague*, increased to a considerable extent; though not so as to assume the epidemic form, or to present anything very remarkable.

"The deaths from *Hydrophobia* in the three years were 24, 15, 12; and therefore not half so numerous in 1840 as in 1838.

"The mortality by the diseases of the *Nervous System* was nearly the same in the three years, *viz.*, ·003365, and ·003255, and ·003302. The mortality by *Cephalitis* and *Paralysis* was slightly higher in 1840 than in the two preceding years.

"The mortality by the diseases of the *Respiratory Organs* was 6 in 1,000; or in each of the three years ·006149, ·005989, and ·006043, The deaths ascribed to *Consumption* in each of the three years were 59,025, 59,559, and 59,923; and the mortality was ·003996, ·003939, and ·003897. The mortality from this disease declined very slightly. About 4 in 1000 persons died annually of Consumption, and about one-fifth or one-sixth part of the total deaths was by this disease.

"The mortality by diseases of the *Digestive Organs* was ·001307, ·001373, and ·001465. The increase was chiefly in *Enteritis*.

"The mortality by diseases of the *Urinary Organs* was ·000112, ·000101, and ·000110, in the three years. The deaths by *Stone* (and *Gravel*) were 320, 299, and 303; the mortality ·000022, ·000020, and ·000020. About 1 in 50,000 persons die of stone annually. It will be interesting to see whether the mortality be reduced in future years by the discoveries of surgery. The mortality by *Diabetes* is to that by *Stone* as nearly two to three.

"The deaths in *Childbed* were 2,811, 2,915, and 2,989 in the three years. The mortality increased from ·000190 to ·000193, and ·000195. To about 187 children born alive, *one mother died*. The proportion of mothers who perish at this important period is unquestionably excessive; and must suggest to every humane person the inquiry whether the education of the nurses who attend the poor in labour may not be improved?

"The number of deaths ascribed to *Rheumatism* and to diseases of the joints was 962, and 1,170 in 1840.

"If we except 'Debility,' under which head are included 'premature births'—'Dropsy' was the most fatal of the diseases of '*uncertain or variable seat.*' The deaths ascribed to dropsy were 12,342, 12,251, and 13,261 in the three years; the annual rate of mortality ·000836, ·000810, and ·000863. It is scarcely necessary to add, that according to the present views of pathologists, *Heart Disease*, or *Nephria*, would in the majority of cases be considered the primary affection. So difficult, nevertheless, appears to be the diagnosis practically, that nearly as many cases of simple 'Dropsy' are registered in the London Hospitals as out of doors in private practice."—*Fourth Annual Report*, pp. 217—219.

In the second annual Report, under the head of deaths from diseases of the respiratory organs, it is shown that the mortality from consumption is greater in females than in males, the former being 4·1 in 1000, and the latter 3·8.

"The higher mortality of English women by consumption may be ascribed partly to the in-door life which they lead, and partly to the compression, preventing the expansion of the chest, by costume. In both ways they are deprived of free draughts of vital air, and the altered blood deposits tuberculous matter with a fatal, unnatural facility. *Thirty-one thousand and ninety* English women died in one year of the incurable malady! Will not this impressive fact

> induce persons of rank and influence to set their countrywomen right in the article of dress, and lead them to abandon a practice which disfigures the body, strangles the chest, produces nervous or other disorders, and has an unquestionable tendency to implant an incurable hectic malady in the frame? Girls have no more need of artificial bones and bandages than boys."—*Second Annual Report*, p. 73.

A test of the state of education in England, with reference to the knowledge of writing, is afforded by the marriage registers. The parties are not asked whether they can read or write, nor are they formally requested to write. In attesting the marriage, it is necessary to sign the register, either by writing their names or making their mark; and this record has been found a valuable and a safe criterion of the comparative state of education. In the second annual Report, Mr. Lister, in his report to her Majesty's principal Secretary of State for the Home Department, arrives at the following deduction from the data furnished:

> "It appears from the foregoing Table, that in 15 English counties and in North and South Wales, more than 40 per cent. of the men were unable to write their names; and in 19 English counties, in the West Riding of Yorkshire and in Wales, more than half the women were similarly deficient; and it will appear from the subjoined Abstract of Marriages, that, in the whole of England and Wales, out of 121,083 couples married, there were 40,587 men and 58,959 women who could not write.
>
> "It is to be observed that the education of the men, in this respect, appears to be superior to that of the women, the proportions per cent. of those who were deficient being respectively 33 and 49 for the whole kingdom, and a superiority being maintained by the men throughout every county."—*Ibid.*, p. 9.

In the third annual Report, the following results are presented:

> "It appears, from the above Table, that in 13 English counties, in the West Riding of Yorkshire and in Wales, more than 40 per cent. of the men married did not write their names; and that in 19 English counties, in the West Riding of Yorkshire and in Wales, the same fact existed with respect to more than half of the women, and it will appear from the subjoined Abstract of Marriages, that in the whole of England and Wales, out of 124,329 couples, there were 41,812 men and 62,523 women who, it is to be presumed, either could not write or wrote very imperfectly.
>
> "If the Table for the year ending June 30th, 1840, had shown results differing widely from those of the preceding year, it might reasonably have been suspected that such returns were not likely to become valuable and safe criterions of the comparative state of education, that they are drawn from too small a portion of the whole population, and are too much influenced by accident. Such, however, is not the case. A comparison of the foregoing Table with the similar Table in my Second Report, will show a remarkably close correspondence in the results, not only for the whole kingdom, but in the Metropolis, and every considerable group of counties."—*Third Ann. Rep.*, pp. 12–13.

In the fourth and last annual Report, these same results are still further confirmed:

> "It appears from the average of three years that 33 men in 100, and 49 women in 100, signed with marks; it is therefore probable that only 67 men and 51 women in 100 can write their own names. There is a slight increase in the proportion of men who wrote their names."—*Fourth Annual Report*, p. 20.

These volumes abound in rich and numerous data upon questions of the highest importance relative to the natural history of man; and to resume these subjects hereafter, in pretty full detail, is our present intention.

ART. IX.—*Report to her Majesty's Principal Secretary of State for the Home Department, from the Poor Law Commissioners, on an Inquiry into the Sanitary Condition of the Laboring Population of Great Britain; with Appendices. Presented to both Houses of Parliament, by Command of Her Majesty, July,* 1842. London: 1843. 8vo. pp. 457.

THIS is part of the rich fruit that must gradually be produced from the labors of the Registrar-General of the Births, Deaths, and Marriages, including the specified cause of each death, in England, brought under notice in the preceding review. It is based partly upon the important results of this registration, which has led to a further prosecution of the subject in this new direction. The labor of this voluminous and valuable Report was performed by Edwin Chadwick, Esq., Barrister at Law, and Secretary to the Poor Law Commissioners.

In the introduction to his "Report on the Sanitary Condition of the Laboring Population, and on the Means of its Improvement," Mr. Chadwick remarks:

> "Partial descriptions of the condition of the laboring classes, in respect to their residences and the habits which influence their health, afford but a faint conception of the evils which are the subject of inquiry. If only particular instances, or some groups of individual cases be adduced, the erroneous impression might be created that they were cases of comparatively infrequent occurrence. But the following tabular return made up from the registration of the causes of death in England and Wales, which is the most complete yet attained, will give a sufficiently correct conception of the extent of the evils in question, when illustrated by the evidence of eye-witnesses, the medical officers whose duty it has been to attend on the spot and alleviate them. The table comprehends the abstract of the returns of the deaths from the chief diseases, which the medical officers consider to be the most powerfully influenced by the physical circumstances under which the population is placed—as the external and internal condition of their dwellings, drainage, and ventilation."

The diseases embraced in this table, as being most powerfully influenced by local causes, are the following: Epidemic, endemic, and contagious diseases, including typhus, scarlatina, small-pox, measles, hooping-cough; diseases of the respiratory organs, as consumption, pneumonia, etc.; diseases of the brain, nerves, and senses; and diseases of the digestive organs.

> "The registration of the causes of death for the year 1838 is selected, as that was the year when the report was made on the sanitary condition of the laboring population of the metropolis, which has served as the foundation of the extended inquiry.
>
> "There are no returns, and no adequate data for returns, to show the proportion in which deaths from the several causes above specified occur amongst the population of Scotland, but there is evidence to which reference will subsequently be made tending to prove that the mortality from fever is greater in Glasgow, Edinburgh, and Dundee, than in the most crowded towns in England.
>
> "The registered mortality from all specified diseases in England and Wales was, during the year 1838, 282,940, or 18 per thousand of the population. These deaths are exclusive of the deaths from old age, which amounted to 35,564, and the deaths from violence, which amounted to 12,055. The deaths from causes not specified were 11,970. The total amount of deaths was 342,529 for that year. In the year following the total deaths were 338,979, of which the registered deaths from old age were 35,063, and the deaths from violence 11,980. The proportion of deaths for the whole population was 21 per thousand.

"It appears that fever, after its ravages amongst the infant population, falls with the greatest intensity on the adult population in the vigor of life. The periods at which the ravages of the other diseases, consumption, small-pox, and measles, take place, are sufficiently well known. The proportions in which the diseases have prevailed in the several counties will be found deserving of peculiar attention.

"A conception may be formed of the aggregate effects of the several causes of mortality from the fact, that of the deaths caused during one year in England and Wales by epidemic, endemic, and contagious diseases, including fever, typhus, and scarlatina, amounting to 56,461, the great proportion of which are proved to be preventible, it may be said that the effect is as if the whole county of Westmoreland, now containing 56,469 souls, or the whole county of Huntingdonshire, or any other equivalent district, were entirely depopulated annually, and were only occupied again by the growth of a new and feeble population living under the fears of a similar visitation. The annual slaughter in England and Wales from preventible causes of typhus which attacks persons in the vigor of life, appears to be double the amount of what was suffered by the Allied Armies in the battle of Waterloo. It will be shown that diseases such as those which now prevail on land, did within the experience of persons still living, formerly prevail to a greater extent at sea, and have since been prevented by sanitary regulations; and that when they did so prevail in ships of war, the deaths from them were more than double in amount of the deaths in battle. But the number of persons who die is to be taken also as the indication of the much greater number of persons who fall sick, and who, although they escape, are subjected to the suffering and loss occasioned by attacks of disease. Thus it was found on the original inquiry in the metropolis, that the deaths from fever amounted to 1 in 10 of the number attacked. If this proportion held equally throughout the country, then a quarter of a million of persons will have been subjected to loss and suffering from an attack of fever during the year; and in so far as the proportion of attacks to deaths is diminished, so it appears from the reports is the intensity and suffering from the disease generally increased. It appears that the extremes of mortality at the Small-pox Hospital, in London, amongst those attacked, have been 15 per cent. and 42 per cent. But if, according to other statements, the average mortality be taken at 1 in 5, or 20 per cent., the number of persons attacked in England and Wales during the year of the return, must amount to upwards of 16,000 persons killed, and more than 80,000 persons subjected to the sufferings of disease, including, in the case of the laboring classes, the loss of labor and long-continued debility: and in respect to all classes, often permanent disfigurement, and occasionally the loss of sight.

"In a subsequent part of this report, evidence will be adduced to show in what proportion these causes of death fall upon the poorer classes as compared with the other classes of society inhabiting the same towns or districts, and in what proportions the deaths fall amongst persons of the same class inhabiting districts differently situated.

"The first extracts present the subjects of the inquiry in their general condition under the operation of several causes, yet almost all will be found to point to one particular, namely, atmospheric impurity, occasioned by means within the control of legislation, as the main cause of the ravages of epidemic, endemic, and contagious diseases among the community, and as aggravating as most other diseases. The subsequent extracts from the sanitary reports from different places will show that the impurity and its evil consequences are greater or less in different places, according as there is more or less sufficient drainage of houses, streets, roads, and land, combined with more or less sufficient means of cleansing and removing solid refuse and impurities, by available supplies of water for the purpose. Then will follow the description of the effects of overcrowding the places of work and dwellings, including the effects of the defective ventilation of dwelling-houses, and of places of work where there are fumes or dust produced. To these will be added the information collected as to the good or evil moral habits promoted by the nature of the residence. These will form so many successive sections of the report, and will be followed by information in respect to the means available for the prevention of the evils described, and an exposition of the present state of the law for the protection of the public health, and of modifications apparently requisite to secure the desired results."—Pp. 1, 3, 4.

Section I. treats of the general condition of the residences of the laboring classes where disease is found to be the most prevalent; and these attendant circumstances are found to be always removable. The following extracts in the language of eye-witnesses, will serve to show the general condition of the residences of the working classes. Mr. Harding, medical officer of the Epping Union, states—

"The state of some of the dwellings of the poor is most deplorable as it regards their health, and also in a moral point of view. As it relates to the former, many of their cottages are neither wind nor water-tight. It has often fallen to my lot to be called on to attend a labor where the wet has been running down the walls, and light to be distinguished through the roof, and this in the winter season, with no fire-place in the room. As it relates to the latter, in my opinion a great want of accommodation for bed-rooms often occurs, so that you may frequently find the father, mother, and children all sleeping in the same apartment, and in some instances the children having attained the age of 16 or 17 years, and of both sexes; and if a death occurs in the house, let the person die of the most contagious disease, they must either sleep in the same room, or take their repose in the room they live in, which most frequently is a stone or brick floor, which must be detrimental to health."—P. 14.

In respect to Toddington, we have the following account:

"In this town fever prevailed during the last year, and, from the state of the dwellings of the persons I called on, this could not be wondered at. Very few of the cottages were furnished with privies that could be used, and contiguous to almost every door a dung heap was raised on which every species of filth was accumulated, either for the purpose of being used in the garden allotments of the cottagers, or to be disposed of for manure. Scarcely any cottage was provided with a pantry, and I found the provisions generally kept in the bedrooms. In several instances I found whole families, comprising adult and infant children with their parents, sleeping in one room."—P. 12.

Behold the condition of that part of Edinburgh and Glasgow, in which the great mass of the fever cases occurred:

"We entered a dirty low passage like a house door, which led from the street through the first house to a square court immediately behind, which court, with the exception of a narrow path around it leading to another long passage through a second house, was occupied entirely as a dung recepticle of the most disgusting kind. Beyond this court the second passage led to a second square court, occupied in the same way by its dunghill; and from this court there was yet a third passage leading to a third court, and third dungheap. There were no privies or drains there, and the dungheaps received all the filth which the swarm of wretched inhabitants could give; and we learned that a considerable part of the rent of the houses was paid by the produce of the dungheaps. Thus, worse off than wild animals, many of which withdraw to a distance and conceal their ordure, the dwellers in these courts had converted their shame into a kind of money by which their lodging was to be paid. The interiors of these houses and their inmates corresponded with the exteriors. We saw half-dressed wretches crowding together to be warm; and in one bed, although in the middle of the day, several women were imprisoned under a blanket, because as many others, who had on their backs all the articles of dress that belonged to

> the party, were then out of doors in the streets. This picture is so shocking that, without ocular proof, one would be disposed to doubt the possibility of the facts; and yet there is perhaps no old town in Europe that does not furnish parallel examples. London, before the great fire of 1666, had few drains, and had many such scenes, and the consequence was, a pestilence occurring at intervals of about 12 years, each destroying at an average about a fourth of the inhabitants. Who can wonder that pestilential disease should originate and spread in such situations?"—P. 24.

SECTION II. treats of the public arrangements external to the residences by which the sanitary condition of the laboring population is affected. Under this head are considered the following topics: Town drainage of streets and houses; street and road cleansing; house cleansing, as connected with street cleansing and sewerage; supplies of water; and sanitary effect of land drainage. Of these defects, those which are most important and which come most directly within practical legislative control, are the neglect of drainage and of the removal of the noxious refuse of houses, streets, and roads.

The sanitary effects obtainable by an efficient town drainage, are strikingly illustrated by numerous examples, more especially as regards typhus fever. As regards street and road cleansing, no less strongly marked effects on the population have followed in many places.

> "To show the value of police regulations in removing any improper accumulations of foul and putrid matter, where a deadly poison is generated, I have a distinct recollection, when the cholera appeared in Macclesfield, not only was that fatal disease arrested somewhat in its progress by the active vigilance exercised by the gentlemen in seeing that in their several districts all offending deposits were removed, and all pest-houses cleansed, that for several months after the town had undergone this salutary inspection, and the people made alive to the pernicious effects of the dunghill, fever of the worst or contagious form scarcely appeared in the usual localities, although it was at the autumnal season of the year. I likewise noticed in spring-time following, when the filth had begun to accumulate on the surface in certain parts of the town, a severe return of contagious diseases, fever in all its stages, and a very fatal epidemic small-pox."—P. 37.

The following description belongs to Manchester, but it applies equally to Leeds, Liverpool, Glasgow, and other places:

> "That the filthy and disgraceful state of many of the streets in these densely populated and neglected parts of the town where the indigent poor chiefly reside cannot fail to exercise a most baneful influence over their health is an inference which experience has fully proved to be well founded; and no fact is better established than that a large proportion of the causes of fever which occur in Manchester originate in these situations. Of the 182 patients admitted into the temporary fever hospital in Balloon-street, 135 at least came from unpaved or otherwise filthy streets, or from confined and dirty courts and alleys. Many of the streets in which cases of fever are common are so deep in mire, or so full of hollows and heaps of refuse, that the vehicle used for conveying the patients to the House of Recovery often cannot be driven along them, and the patients are obliged to be carried to it from considerable distances. Whole streets in these quarters are unpaved and without drains or main-sewers, are worn into deep ruts and holes, in which water constantly stagnates, and are so covered with refuse and excrementitious matter as to be almost impassable from depth of mud, and intolerable from stench. In the narrow lanes, confined courts and alleys, leading from these, similar nuisances exist, if possible, to a still greater extent; and as ventilation is here more obstructed, their effects are still more pernicious.

> In many of these places are to be seen privies in the most disgusting state of filth, open cesspools, obstructed drains, ditches full of stagnant water, dunghills, pigsties, &c., from which the most abominable odors are emitted. But dwellings perhaps are still more insalubrious in those cottages situated at the backs of the houses fronting the street, the only entrance to which is through some nameless narrow passage, converted generally, as if by common consent, into a receptacle for ordure and the most offensive kinds of filth. The doors of these hovels very commonly open upon the uncovered cesspool, which receives the contents of the privy belonging to the front house, and all the refuse cast out from it, as if it had been designedly contrived to render them as loathsome and unhealthy as possible. Surrounded on all sides by high walls, no current of air can gain access to disperse or dilute the noxious effluvia, or disturb the reeking atmosphere of these areas. Where there happens to be less crowding, and any ground remains unbuilt upon, it is generally undrained, contains pools of stagnant water, and is made a depôt for dunghills and all kinds of filth."—P. 38.

The following extract, which is part of the report on Leeds, shows the vile condition of portions of all cities in the world:

> "The courts and *culs-de-sac* exist everywhere. The building of houses back to back occasions this in a great measure. It is in fact part of the economy of buildings that are to pay a good per centage. In one *cul-de-sac*, in the town of Leeds, there are 34 houses, and in ordinary times, there dwell in these houses 340 persons, or ten to every house; but as these houses are many of them receiving houses for itinerant laborers, during the periods of hay-time and harvest and the fairs, at least twice that number are then here congregated. The name of this place is the Boot and Shoe-yard, in Kirkgate, a location from whence the Commissioners removed, in the days of the cholera, 75 cart-loads of manure, which had been untouched for years, and where there now exists a surface of human excrement of very considerable extent, to which these impure and unventilated dwellings are additionally exposed. This property is said to pay the best annual interest of any cottage property in the borough."—P. 41.

As regards the sanitary effect of land drainage, no evidence need be here adduced. All the world, and every age of man's history, testify to the advantages of skilful and effectual drainage in augmenting not only salubrity, but productiveness of soil.

Section III. discusses the circumstances chiefly in the internal economy and bad ventilation of places of work, and of workmen's dwellings, in connection with the domestic habits affecting their health. These questions, like all the. rest, are most abundantly illustrated by the most varied testimony; but our limits preclude any extended extracts. The evils arising from the bad ventilation of places of work, are very distinctly brought under view, by the consideration of its effects upon a particular class of laborers, the journeymen tailors.

Mr. Thomas Brownlow, aged 52, who had been a journeyman tailor, and worked at the largest establishments in London, where they employ from 100 to 250 men, but who now works for himself, gave evidence of which the following is part:

> "Will you describe the places of work, and the effects manifested in the health of the workmen?—The place in which we used to work at Messrs. Allen's was a room where 80 men worked together. It was a room about 16 or 18 yards long, and 7 or 8 yards wide, lighted with skylights; the men were close together, nearly knee to knee. In summer time the heat of the men and the heat of the irons made the room 20 or 30 degrees higher than the heat outside; the heat was then

most suffocating, especially after the candles were lighted. I have known young men, tailors from the country, faint away in the shop from the excessive heat and closeness; persons, working-men, coming into the shop to see some of the men, used to complain of the heat, and also of the smell as intolerable; the smell occasioned by the heat of the irons and the various breaths of the men really was at times intolerable. The men sat as loosely as they possibly could, and the perspiration ran from them from the heat and the closeness. It is of frequent occurrence in such workshops that light suits of clothes are spoiled from the perspiration of the hand, and the dust and flue which arises darkening the work. I have seen 40*l.* or 50*l.* worth of work spoiled in the course of the summer season from this cause.

"In what condition are these work-places in winter?—They are more unhealthy in winter, as the heat from the candles and the closeness is much greater. Any cold currents of air which come in give annoyance to those who are sitting near the draught. There is continued squabbling as to the windows being opened; those who are near the windows, and who do not feel the heat so much as the men near the stoves, objecting to their being opened. The oldest, who had been inured to the heat, did not like the cold, and generally prevailed in keeping out the cold or the fresh air. Such has been the state of the atmosphere, that in the very coldest nights large thick tallow candles (quarter of a pound candles) have melted and fallen over from the heat.

"What was the effect of this state of the work-places upon the habits of the workmen?—It had had a very depressing effect on the energies; that was the general complaint of those who came into it. Many could not stay out the hours, and went away earlier. Those who were not accustomed to the places generally lost appetite. The natural effect of the depression was, that we had recourse to drink as a stimulant. We went into the shop at six o'clock in the morning; but at seven o'clock, when orders for the breakfast were called for, gin was brought in, and the common allowance was half-a-quartern. The younger hands did not begin with gin.

"Was gin the first thing taken before any solid food was taken?—Yes, and the breakfast was very light; those who took gin generally took only half-a-pint of tea and half a twopenny loaf as breakfast."—Pp. 98, 99.

Liquor was again brought in at 11 o'clock, at 3 o'clock, and at 5 o'clock, at each of which times either gin or beer was taken. At 7 o'clock the shop was closed, when nearly all the young men went to the public houses.

At Glasgow, the Report says that some tailors' workshops were carefully ventilated, and the immediate results were as satisfactory as had been anticipated.

On the milliners and dressmakers employed at the larger workshops of the metropolis, like effects are produced by similar defective ventilation and overcrowding of rooms, aided by the deterioration of the air, arising from the use of candles or gas-lamps at night work.

The mortality of hospitals is likewise much affected by position and internal economy. The diminution in the mortality of the Hôtel Dieu, from better ventilation, is thus noticed by Parent Du Châtelet:

"The mortality has diminished in the Hôtel Dieu in remarkable proportions. Without saying anything of the enlargement of the windows, of the warm clothing, of a better system of heating the apartments, are we to count for nothing the destruction of all the high houses which surrounded the Hôtel Dieu on every side? In our opinion the pure and dry air which circulates now in every part, the sun which penetrates there, the stoves which have been erected, have as much contributed to its healthiness as the suppression of the amphitheatres of anatomy which were in its neighborhood."—Pp. 106, 107.

Next, the effects of the defective ventilation of the sleeping rooms of the working classes are exemplified. In regard to the lodging-places of the miners, the following is the account given by William Eddy, one of their own number:

> "I went to work in Greenside four years. Our lodging-rooms were such as not to be fit for a swine to live in. In one house there were 16 bedsteads in the room up stairs, and 50 occupied these beds at the same time. We could not always get all in together, but we got in when we could. Often three at a time in the bed, and one at the foot. I have several times had to get out of bed, and sit up all night to make room for my little brothers, who were there as washers. There was not a single flag or board on the lower floor, and there were pools of water 12 inches deep. You might have taken a coal-rake and raked off the dirt and potatoe peelings six inches deep. At one time we had not a single coal. After I had been there two years, rules were laid down, and two men were appointed by the master to clean the house up stairs twice a week. The lower apartment was to be cleaned twice a day. Then the shop floor was boarded, and two tables were placed in the shop. After that two more shops were fitted up, but the increase of workmen more than kept up with the increased accommodation. The breathing at night when all were in bed was dreadful. The workmen received more harm from the sleeping-places than from the work. There was one pane of glass which we could open, but it was close to a bed-head.
>
> "The mines at Greenside were well ventilated, and in that respect there was nothing to complain of.
>
> "In the winter time the icicles came through the roof, and within 12 inches of the people sleeping in bed. During a thaw, the water dropped plentifully into the beds. In the upper beds the person sleeping next to the wall cannot raise his head or change his shirt."—Pp. 111, 112.

It further appears that the worst effects are also due to the defective ventilation and overcrowding of private dwellings. A specimen of the destitution in Scotland, in this respect, is afforded in the Report of Dr. Scott Alison on Tranent:

> "In many houses in and around Tranent, fowls roost on the rafters and on the tops of the bedsteads. The effluvia in these houses are offensive, and must prove very unwholesome. It is scarcely necessary to say that these houses are very filthy. They swarm likewise with fleas. Dogs live in the interior of the lowest houses, and must, of course, be opposed to cleanliness. I have seen horses in two houses in Tranent inhabiting the same apartment with numerous families, One was in Dow's Bounds. Several of the family were ill of Typhus fever, and I remember the horse stood at the back of the bed. In this case the stench was dreadful. In addition to the horse there were fowls, and I think the family was not under ten souls. The father died of typhus on this occasion. The families of most of the laboring people are crowded, in consequence of the smallness of the apartment. Where there are many children, it is common for 10 or 12 people to inhabit one apartment, and for four children to lie in one bed, both in health and sickness. When a collier has few or no children, he sometimes takes single men and women as lodgers."—Pp. 121, 122.

This over-crowding and want of separate apartments also exert the most unhappy influence upon the morals of the population. Mr. Riddall Wood, when examined on this point, according to his knowledge obtained in the course of his visits from house to house in the various towns, replied—

> "In what towns did you find instances of the greatest crowding of the habitations?—In Manchester, Liverpool, Ashton-under-Lyne, and Pendleton. In a cellar in Pendleton, I recollect there were three beds in the two apartments of which the habitation consisted, but having no door between them, in one of which a man and his wife slept; in another, a man, his wife and child; and in a third two unmarried females. In Hull I have met with cases somewhat similar. A mother about 50 years of age, and her son I should think 25, at all events above 21, sleeping in the same bed, and a lodger in the same room. I have two or three instances in Hull in which a mother was sleeping with her grown up son, and in most cases there were other persons sleeping in the same room in another bed. In a cellar in Liverpool, I found a mother and her grown-up daughters sleeping on a bed of chaff on the ground in one corner of the cellar, and in the other corner three sailors had their bed. I have met with upwards of 40 persons sleeping in the same room, married and single, including, of course, children and several young adult persons of either sex. In Manchester I could enumerate a variety of instances in which I found such promiscuous mixture of the sexes in sleeping-rooms. I may mention one: a man, his wife and child sleeping in one bed; in another bed, two grown up females; and in the same room two young men, unmarried. I have met with instances of a man, his wife, and his wife's sister, sleeping in the same bed together. I have known at least half-a-dozen cases in Manchester in which that has been regularly practised, the unmarried sister being an adult.
>
> "In the course of your own inquiry, how many instances, if you were to look over your Notes, of persons of different sexes sleeping promiscuously, do you think you met with?—I think I am speaking within bounds when I say I have amongst my memoranda above 100 cases, including, of course, cases of persons of different sexes sleeping in the same room.
>
> "Was it so common as to be in nowise deemed extraordinary or culpable amongst that class of persons?—It seemed not to be thought of. As a proof of this I may mention one circumstance which just occurs to me:—Early in my visitation of Pendleton, I called at the dwelling of a person whose sons worked with himself in a colliery. It was in the afternoon, when a young man, one of the sons, came down stairs in his shirt, and stood before the fire where a very decently-dressed young female was sitting. The son asked his mother for a clean shirt, and on its being given to him, very deliberately threw off the shirt he had on, and after warming the clean one, put it on. In another dwelling in Pendleton, a young girl 18 years of age, sat by the fire in her chemise during the whole time of my visit. Both these were houses of working people (colliers), and not by any means of ill-fame."—Pp. 124–125.

Mr. Wood further illustrated the demoralization attendant upon these circumstances; and, in this statement, he was corroborated by Mr. Baker relative to the laboring classes in Leeds:

> "In the houses of the working classes, brothers and sisters, and lodgers of both sexes, are found occupying the same sleeping-room with the parents, and consequences occur which humanity shudders to contemplate. It is but three or four years ago since a father and daughter stood at the bar of the Leeds Sessions as criminals, the one in concealing, and the other in being an accessary to concealing, the birth of an illegitimate child, born on the body of the daughter by the father; and now, in November, 1841, one of the Registrars of Leeds has recorded the birth of an illegitimate child born on the body of a young girl, only 16 years of age, who lived with her mother, who cohabited with her lodger, the father of this child, of which the girl had been pregnant five months, when the mother died."—P. 126.

It is these various noxious physical agencies that seem to hold the foremost place as antecedents to fever. As regards the causes of fever, it is still controverted whether it is produced by filth and vitiated atmosphere, or whether these causes are merely predisposing to the reception of the fever, or the means of propagating it, though really dependent on some superior or specific cause. The Commissioners, referring to the various local reports, say:

> "These reports have awakened in us the sad conviction that many localities are quite devoid of even the most simple ideas on public health; the inhabitants live surrounded by marshes, drains, stagnant pools, manure heaps, without having the slightest idea of the danger they are incurring. Indeed, many of them blindly speculate in these heaps of infection, increasing the manure which is to enrich their fields at the expense of their health, and often of their lives."
>
> "The Commissioners observe,—"Most of the improvements in public health have been brought about through the experience and science united in our large cities; so much so that now epidemics often come to us from the rural districts. These epidemics are generally much less fatal than formerly, but are still very prevalent even in the wealthiest and the most civilized departments. It would be an important problem to solve, what are the causes which produce these epidemics in the agricultural as well as in the manufacturing counties, as in ancient Normandy and Picardy. One cause is certainly the unhealthiness of the houses. The inhabitants of these districts are, in general, well fed, well clothed, but ill lodged. We are surprised to find in the midst of a fertile plain wide districts covered with luxuriant vegetation, villages buried in the ground, *smothered* with large trees, and cottages constructed without any art or plan, and almost entirely without windows.' The Commissioners state, further,—'If you wish to have a robust and healthy people, you must have a care for their physical education, their houses, and their modes of living. Do not allow generation after generation to be depressed under the evil effects of recurring epidemics, which must eventually ruin the strongest constitutions, as is seen to be the case in marshy and ill-drained districts, where fevers, *goitres*, and scrofulas constantly prevail.'
>
> "In another report made on the proceedings of the Conseil de Salubrité, the diseases prevalent amongst the population of the towns are adverted to:—'We must be like the men so well painted by the Psalmist, to reject such evidence—*eyes have they, and see not.* How shall we explain, or rather to what shall we attribute the difference that is remarked between the mortality of one quarter and that of another quarter of the same town; of one street and that of another street of the same quarter or of the same village; or, lastly, the difference that is observed in this respect between the houses of the same street and those houses which are completely isolated? Misery, it is replied to us, is the cause. Yes, without doubt, misery is a powerful cause; but it is so especially when it is driven back into the most insalubrious quarters, streets, and houses; when it lives habitually in the midst of filth and dirt, that is to say, in the midst of an infected atmosphere; and when there is no misery, or when it exists in the same degree in the quarters, in the villages, in the streets, and in the houses with which the comparison is made; and, stronger still, when poverty is met with precisely there where there is the least mortality; in what is to be found the cause of this difference, if it is not in the insalubrity of the dwelling-places.'
>
> "The report on the local epidemics concludes by earnestly recommending to the government—'That sanitary measures be adopted by means of which the constitution of the people may be renewed, and their longevity increased. If this recommendation be fulfilled, we may then hope to see the condition of some of the departments ameliorated, in which now the population is so degenerated that the men seem to diminish in size each time they are measured for the conscriptions.'"—Pp. 151-2.

Section IV. shows the comparative chances of life in different classes of the community; and, as this difference is extraordinarily great, it follows that insurance tables made up from the gross returns of the mortality among large classes, living under circumstances widely diverse, cannot be free from grave errors. It is shown, for example, that the average chances of life of the people of one class, in one street, will be fifteen years, while in a street immediately adjacent, this probability is as high as sixty years; and, in the same town, it is further found that, in one district, the mortality is only one out of every fifty-seven of the population, while, in another, the annual ratio is as high as one in twenty-eight. To illustrate this point, the following extract will suffice:

LEEDS BOROUGH.

No. of Deaths.		Average Age of Deceased.
79	Gentlemen and persons engaged in professions, and their families	44
824	Tradesmen, farmers, and their families	27
3,395	Operatives, labourers, and their families	19

"But in Liverpool (which is a commercial and not a manufacturing town) where, however, the condition of the dwellings is reported to be the worst, where, according to the report of Dr. Duncan, 40,000 of the population live in cellars, where 1 in 25 of the population are annually attacked with fever,—there the mean chances of life appear from the returns to the Registrar-General to be still lower than in Manchester, Leeds, or amongst the silk weavers in Bethnal Green. During the year 1840, the deaths, distinguishable in classes, were as follows:—

LIVERPOOL, 1840.

No. of Deaths.		Average Age of Deceased.
137	Gentry and professional persons, &c.	35 years.
1,738	Tradesmen and their families	22
5,597	Laborers, mechanics, and servants, &c.	15

"Of the deaths which occurred amongst the laboring classes, it appears that no less than 62 per cent. of the total number were deaths under five years of age. Even amongst those entered as shopkeepers and tradesmen, no less than 50 per cent. died before they attained that period. The proportion of mortality for Birmingham, where there are many insalubrious manufactories, but where the drainage of the town and the general condition of the inhabitants is comparatively good, was in 1838, 1 in 40; whilst in Liverpool it was 1 in 31."—Pp. 159, 160.

Mr. Chadwick also shows that high mortality is not essential to towns, and he adduces instances of greater health in urban than in rural districts. He says—

"An impression is often prevalent that a heavy mortality is an unavoidable condition of all large towns, and of town populations in general. It has, however, been shown that groups of cottages on a high hill, exposed to the most salubrious breezes, when cleanliness is neglected, are often the nests of fever and disease, as intense as the most crowded districts. The mortuary returns of particular districts (in the essentials of drainage, cleansing, and ventilation, to which it is practicable to make other districts approximate, and that too with reductions of existing charges), prove that a high degree of mortality does not invariably belong to the population of all towns, and probably not necessarily to any, even where the population is engaged in manufactures. The proportion of deaths appears in some of the suburbs of the metropolis (as at Hackney), and of Manchester and Leeds, to be lower than amongst the highest classes in two of the agricultural counties."—Pp. 167, 168.

Nothing, however, is better established than the influence of local circumstances on mortality. In Bath, for instance, as appears from the statement of the Rev. W. Elvin, while the lower classes were suffering severely from fever and contagious diseases, the higher ones possessed an almost complete exemption :

> "The deaths from fever and contagious diseases I found to be almost exclusively confined to the worst parts of the town. An epidemic small-pox raged at the end of the year 1837, and carried off upwards of 300 persons ; yet of all this number I do not think there was a single gentleman, and not above two or three tradesmen. The residences of the laboring classes were pretty equally visited, disease showing here and there a predilection for particular spots, and settling with full virulence in Avon-street and its offsets. I went through the registers from the commencement, and observed that, whatever contagious or epidemic diseases prevailed,—fever, small-pox, influenza,—this was the scene of its principal ravages ; and it is the very place of which every person acquainted with Bath would have predicted this result. Everything vile and offensive is congregated there. All the scum of Bath—its low prostitutes, its thieves, its beggars—are piled up in the dens, rather than houses, of which the street consists. Its population is the most disproportioned to the accommodation of any I have ever heard ; and to aggravate the mischief, the refuse is commonly thrown under the staircase ; and water more scarce than in any quarter of the town. It would hardly be an hyperbole to say that there is less water consumed than beer ; and altogether it would be more difficult to exaggerate the description of this dreadful spot than to convey an adequate notion to those who have never seen it. A prominent feature in the midst of this mass of physical and moral evils, is the extraordinary number of illegitimate children ; the offspring of persons who in all respects live together as man and wife. Without the slightest objection to the legal obligation, the moral degradation is such that marriage is accounted a superfluous ceremony, not worth the payment of the necessary fees ; and on one occasion, when it was given out that these would be dispensed with, upwards of 50 persons from Avon-street, who had lived together for years, voluntarily came forward to enter into a union. And thus it invariably happens in crowded haunts of sin and filth, where principle is obliterated, and where public opinion, which so often operates in the place of principle, is never heard ; where, to say truth, virtue is treated with the scorn which in better society is accorded to vice. I have been rendered familiar with these places by holding a curacy in the midst of them for upwards of a year, and my duty as chaplain to the Union, in visiting the friends of paupers or discharged paupers themselves, keeps up the knowledge I then contracted.
>
> "I think these facts supply us with important conclusions. Whether we compare one part of Bath with another, or Bath with other towns, we find health rising in proportion to the improvement of the residences ; we find morality, in at least a great measure, following the same law, and both these inestimable blessings within the reach of the legislature to secure. When viewed in this light, these investigations, so often distressing and disgusting, acquire dignity and importance."—Pp. 169, 170.

Mr. Secretary Chadwick next shows that all improvements in the health of large towns are chiefly confined to improved districts ; and this he further confirms by the evidence of M. Villermé relative to Paris. On the authority of the distinguished Villermé, he gives the following quotation :

> "Some idea may be formed of the dirtiness of the streets of Paris, towards the end of the fourteenth century, from the words of an ordinance of Charles VI. issued in 1388, 'And whereas the pavements of Paris are much injured and fallen into decay, so that in many places no horse or carriage can go without very great danger and inconvenience, and whereas this town has long been, and still is, full of dirt, rubbish, and ordure, which each person has left at his own door, so that it is a great horror, and a great displeasure to all persons of respectability and honor, and a great scandal and shame to this city, and a great

> grief and prejudice to the human beings dwelling in and frequenting the said city, who by the infection of the stinking mass of filth, have fallen in times past into great illness and infirmities of body, and great mortality.' "—P. 173.

At this period, the general annual mortality of Paris is estimated at one-twentieth or a twenty-second part of the whole population.

Mr. C. further gives, in the history of Geneva, during the last three centuries, an instance of the progressive improvement in the social condition of the population concurrently with its increase in numbers. He also shows that, in those districts in which the mortality is highest, the number of births is more than sufficient to compensate the deaths, and that pestilence or excessive mortality does not diminish population, and is, consequently, not a corrective of the pressure of population. This is satisfactorily established by the registration of England, for the year ending June 30, 1840. Dividing the forty-two counties of England into three parts, Mr. Chadwick speaks thus—

> "We here find that in the 14 counties where proportionate mortality has been the least, the 184 deaths in 10,000 persons are made up by the 297 births; hence 113, or more than 1 per cent., is added by new births to the existing population. In the 14 intermediate counties where the deaths on every 10,000 persons increase to 208, there the deaths are again made up by 302 births, and 94, or close upon 1 per cent., are again added to the population. In the 14 counties where the increase of the population is the greatest, the deaths in every 10,000 persons are increased to 259, but here also we find that the births are again sufficient to make up for the deaths; they are 348, and increase the population by 89, or less than 1 per cent.
>
> "Hence, if the number of births in each 10,000 persons of the 14 counties where the mortality has been the greatest had taken place amongst every 10,000 persons of the counties where the mortality has been the least, then the increase of population in these latter by births, instead of being 113, would have been 164." —P. 183.

The same law is established in France and most of the other countries of Europe; but we shall not here pursue this part of the subject any farther, as we propose resuming it in another form hereafter.

This inquiry also proves that the strength of the population may be deteriorated by disease without diminishing its numbers.

> "The important general fact," says Mr. Chadwick, "of the proportion of adult physical strength to the increased duration of life, or improved sanitary condition of the individuals, is verified by the examinations of the individuals of different classes. M. Villermé states that the difference of strength between classes such as those in which we have seen that the value of life differs, is well known to the officers engaged in recruiting the army, but no one had collected the facts to determine the precise difference. The time allowed to M. Villermé only enabled him to do so at Amiens. The result was, that the men of from 20 to 21 years of age were found the more frequently unfit for the trade of arms from their stature, constitution, and health, as they belonged to the poorer classes of the manufacturing laborers. In order to obtain 100 men fit for military service, it was necessary to have as many as 343 men of the poorer classes; whilst 193 conscripts sufficed of the classes in better circumstances. Analogous facts were observed in the greater part of the towns in France in which he conducted his official investigations.
>
> "In the evidence of recruiting officers, collected under the Factory Commission of Inquiry, it was shown that fewer recruits of the proper strength and stature for military service are obtainable now than heretofore from Manchester. I have been informed that of those laborers now employed in the most

important manufactories, whether natives or migrants to that town, the sons who are employed at the same work are generally inferior in stature to their parents. Sir James M'Grigor, the Director-general of the Army Medical Board, stated to me the fact, that 'A corps levied from the agricultural districts in Wales, or the northern counties of England, will last longer than one recruited from the manufacturing towns from Birmingham, Manchester, or near the metropolis.' Indeed, so great and permanent is the deterioration, that out of 613 men enlisted, almost all of whom came from Birmingham and five other neighboring towns, only 238 were approved for service.

"The chances of life of the laboring classes of Spitalfields are amongst the lowest that I have met with, and there it is observed of weavers, though not originally a large race, that they have become still more diminutive under the noxious influences to which they are subject. Dr. Mitchell, in his report on the condition of the hand-loom weavers, adduces evidence on this point. One witness well acquainted with the class, states, 'They are decayed in their bodies; the whole race of them is rapidly descending to the size of Liliputians. You could not raise a grenadier company amongst them all. The old men have better complexions than the young.' Another witness who says there were once men as well made in the weaver trade as any other, 'recollects the Bethnal Green and Spitalfields regiment of volunteers during the war as good-looking bodies of men, but doubts if such could be raised now.' Mr. Duce concurs in the fact of the deterioration of their size and appearance within the last thirty years, and attributes it to bad air, bad lodging, bad food, 'which causes the children to grow up an enfeebled and diminutive race of men.' (*Vide* Evidence of the Medical Officers of the District, *ante*.)"—Pp. 185–6.

Section V. treats of the pecuniary burdens created by the neglect of sanitary measures. Upon this point, Mr. C. remarks:

"The more closely the subject of the evils affecting the sanitary condition of the laboring population is investigated, the more widely do their effects appear to be ramified. The pecuniary cost of noxious agencies is measured by data within the province of the actuary, by the charges attendant on the reduced duration of life, and the reduction of the periods of working ability or production by sickness; the cost would include also much of the public charge of attendant vice and crime which come within the province of the police, as well as the destitution which comes within the province of the administrators of relief. Of the pecuniary effects, including the cost of maintenance during the preventible sickness, any estimate approximating to exactness could only be obtained by very great labor, which does not appear to be necessary.

"To whatever extent the probable duration of the life of the working man is diminished by noxious agencies, I repeat a truism in stating that to some extent so much productive power is lost; and in the case of destitute widowhood and orphanage burdens are created and cast either on the industrious survivors belonging to the family, or on the contributors to the poor's rates during the whole of the period of the failure of such ability. With the view to judge of the extent to which such burdens are at present cast upon the poor's rates, I have endeavored to ascertain the average age at which death befell the heads of those families of children who with the mothers have been relieved on the ground of destitution, in eight of the unions where the average age of the mortality prevalent amongst the several classes of the community has been ascertained."—Pp. 188, 189.

From this statistical investigation, he arrives at the conclusion that the great mass of premature widowhood and of orphanage is to be ascribed to removable causes. He adds—

"This premature widowhood and orphanage is the source of the most painful descriptions of pauperism—the most difficult to deal with; it is the source of a

> constant influx of the independent into the pauperised and permanently dependent classes. The widow, where there are children, generally remains a permanent charge; re-marriages amongst those who have children are very rare; in some unions they do not exceed one case in twenty or thirty. By the time the children are fit for labor and cease to require the parents' attention, the mothers frequently become unfit for earning their own livelihood, or habituated to dependence, and without care to emerge from it. Even where the children are by good training and education fitted for productive industry, when they marry, the early familiarity with the parochial relief makes them improvident, and they fall back upon the poor's rates on the lying-in of their wives, on their sickness, and for aid on every emergency. In every district the poor's rolls form the pedigrees of generations of families thus pauperized. The total number of orphan children on account of whose destitution relief was given from the poor's rates in the year ended Lady-day, 1840, was 112,000."—P. 190.

As regards the effects of noxious physical agencies on the moral and intellectual condition of the rising generation, the Secretary of the Commission justly observes—

> "I might adduce the evidence of the teachers of the pauper children at Norwood to show that a deteriorated physical condition does in fact greatly increase the difficulty of moral and intellectual cultivation. The intellects of the children of such inferior physical organization are torpid; it is comparatively difficult to gain their attention or to sustain it; it requires much labor to irradiate the countenance with intelligence, and the irradiation is apt to be transient. As a class they are comparatively irritable and bad tempered. The most experienced and zealous teachers are gladdened by the sight of well-grown and healthy children, which present to them better promise that their labors will be less difficult and more lasting and successful. On one occasion a comparison was made between the progress of two sets of children in Glasgow, the one set taken from the wynds and placed under the care of one of the most skilful and successful infant schoolmasters, the other a set of children from a more healthy town district and of a better physical condition, placed under the care of a pupil of the master who had charge of the children from the wynds. After a trial for a sufficient time, the more experienced master acknowledged the comparative inferiority of his pupils, and his inability to keep them up to the pace of the better bodily conditioned children.
>
> "The facts indicated will suffice to show the importance of the moral and political considerations, viz., that the noxious physical agencies depress the health and bodily condition of the population, and act as obstacles to education and to moral culture; that in abridging the duration of the adult life of the working classes they check the growth of productive skill, and abridge the amount of social experience and steady moral habits in the community: that they substitute for a population that accumulates and preserves instruction and is steadily progressive, a population that is young, inexperienced, ignorant, credulous, irritable, passionate, and dangerous, having a perpetual tendency to moral as well as physical deterioration."—Pp. 202, 203.

Lastly, the pecuniary cost of disease compared with that of the means of prevention, is considered, in which the vast excess of the former, without reference to the waste of human life, is shown.

Section VI. brings under view the evidence of the effects of preventive measures in raising the standard of health and the chances of life. This point has been already established in the preceding investigation; and "it admits of proof," says Mr. Chadwick, "that a higher standard of health and comfort is attainable for them even at a less expense than that in which they now live in disease and misery." Evidence of the general fact is afforded in the experience of the effects of sanitary measures in banishing the spontaneous diseases of crowded prisons; but even the filth, bad ventilation, and physical suffering of jails, as described by the philanthropic Howard, are, at this time, exceeded by the cellar population of the working people of Liverpool, Manchester, Leeds, and a large portion of London. It is now ascertained that the health of prisoners, notwithstanding they come, as a class, from the worst localities, and are, consequently, below the average of health when they enter the prisons, is, in general, much higher than that of the surrounding population. At the Glasgow Bridewell, it is found, as the prisoners are weighed on their entrance and at their discharge, that they have, on the average, gained in weight. In the prisons of France, it is shown by M. Villermé that, an equally striking diminution has taken place, chiefly from stricter attention to cleanliness, diet, and ventilation. Further testimony in favor of the efficiency of preventive measures is furnished by the naval medical service.

> "So dreadful," says Mr. Chadwick, "was once the condition of the navy that, in the year 1726, when Admiral Hosier sailed with seven ships of the line to the West Indies, he buried his ships' companies twice, and died himself of a broken heart. Amongst the pictures then presented, as in Anson's Voyages, 1740–44, were those of deaths to the amount of eight or ten a-day in a moderate ship's company; bodies sewn up in hammocks and washing about the decks, for want of strength and spirit on the part of the miserable survivors to cast them overboard. Dr. Johnson, in the year 1778, thus describes a sea life:—'As to the sailor, when you look down from the quarter-deck to the space below, you see the utmost extremity of human misery; such crowding, such filth, such stench!' 'A ship is a prison, with the chance of being drowned,—it is worse, worse in every respect; worse air, worse food, worse company.'"—Pp. 219, 220.

It is remarked by Dr. Wilson, in his preface to the Naval Medical Returns, "that, within the limits of the South American command, the Centurion, exactly a century ago, lost, in a few weeks, 200 out of 400 men, by scurvy. During the years from 1830 to 1836, the British *squadron* employed in South America, lost, by disease of every description, only 115 out of 17,254 men.

But the scurvy, once so fatal in the navy, is now almost unknown in men-of-war. It is a popular opinion in the navy that lemon juice in the grog is a specific against scurvy; but it is surely more consonant with enlarged philosophical views, to consider as preventives, liberal supplies of wholesome food and good water, ventilation, and general and personal cleanliness; and, instead of regarding lime juice as an infallible antidote, to look for the cure of this disease to a full diet of fresh meat and vegetables.

The Report next inquires still further into the cost, as regards tenants and owners, of the public measures for drainage, cleansing, and the supplies of water, as compared with the cost of sickness; the employers' influence on the health of workpeople, by means of improved habitations; and also the employers' influence on the health of workpeople, as regards the modes of payment which do not lead to temptations to intemperance, as respects the promotion of personal cleanliness, the ventilation of the places of work, and the prevention of noxious fumes, dust, &c.; the promoting of respectability in dress; the influence of employers in the improvement of habitations and sanitary arrangements for the protection of the laboring classes in the rural districts; and lastly, the effects of public walks and gardens upon the health and moral habits of a town population.

Upon each of these topics, much satisfactory evidence is adduced, showing the influence that may be thus exercised by the employers on the health and moral condition of the laboring population.

Under the head of promotion of personal cleanliness, the following evidence was elicited by Mr. John Kennedy, in the course of the examinations of some colliers of Lancashire:

> "How often do the drawers (those employed in drawing coals) wash their bodies?—None of the drawers ever wash their bodies. I never wash my body; I let my shirt rub the dirt off; my shirt will show that. I wash my neck and ears, and face, of course.
>
> "Do you think it usual for the young women (engaged in a colliery) to do the same as you do?—I do not think it is usual for the lasses to wash their bodies; my sisters never wash themselves, and seeing is believing; they wash their faces, necks, and ears.
>
> "When a collier is in full dress, he has white stockings, and very tall shirt necks, very stiffly starched, and ruffles?—That is very sure, sir; but they never wash their bodies underneath; I know that; and their legs and bodies are as black as your hat."—P. 253.

On admission into the hospitals, they usually manifest extreme repugnance to being washed, one having declared that he considered it "equal to robbing him of a great coat which he had had for some years. So important a circumstance, indeed, is the process of ablution in the life of a collier, that one of them remembered that a particular event took place at Easter, "because it was then he washed his feet." Even the feet of the females, who work without their stockings, are, like those of the male workers, seen coated with the filth of years.

A subject of much interest, as one connected with the salubrity of all cities, is the effect of public walks and gardens on the health and morals of the lower classes of the population. We concur fully in the following extract from the report of the committee of physicians and surgeons of Birmingham, relative to its sanitary condition:

> "The want of some place of recreation for the mechanic is an evil which presses very heavily upon these people, and to which many of their bad habits may be traced. There are no public walks in or near this town; no places where the working-people can resort for recreation, The consequence is that they frequent the ale-houses and skittle-alleys for amusement. Within the last half century the town was surrounded by land which was divided into gardens, which were rented by the mechanic at one guinea or half a guinea per annum. Here the mechanic was generally seen after his day's labor spending his evening in a healthy and simple occupation, in which he took great delight. This ground is now for the most part built over, and the mechanics of the town are gradually losing this source of useful and healthy recreation."—Pp. 275.

Section VII. reviews the recognized principles of legislation, and the state of the existing laws for the protection of the public health; and here are submitted for consideration the facts which serve to show how far the aid of the legislature and of administrative arrangements is requisite for the removal of the physical evils by which the health, and strength, and morals, of the laboring classes are depressed.

As most of these questions are local in their nature, a brief notice of them must suffice. As regards the general state of laws for the protection of the public health, it would appear that Germany holds the first place. In the work of Professor Mohl, of Tubingen (*Polizei-Wissenschaft*), comprehending the extensive administrative duties included under the term, *police*, the author says, that "medical police is both in theory and practice essentially German. In German states only, as Austria and Prussia, has anything been done in it systematically; the literature, also, of medical police is almost entirely German. Other states either do nothing at all, as England, the United States of America, or only very imperfectly, as France; where anything is done, German principles and arrangements are closely imitated."

Mr. Chadwick here shows the existing laws for the protection of the public health in England, and also the early state of the law relative to the same subject. He enters into many details in respect to the general state of the local executive authorities charged with the erection and maintenance of town and road drainage, the sewerage for house and street drainage, and the provisions for the cleansing of the surface of streets. Under this head, we look upon the following extract as conveying sound and practical instruction.

> "In the map of Leeds, where the cholera track is portrayed, it will be observed that it followed closely the fever track; and were such maps so far improved as to show at a view the condition of a district in respect to dwelling and drainage, the mark to denote sites where the drainage was imperfect would at the same time denote the seats of epidemic disease. This had been so far observed by medical men that there was, perhaps, no point on which they were more anxious and urgent than that increased sewerage and cleansing should be adopted as preventives of the cholera."—Pp. 314, 315.

The last subject considered under this section, are boards of health, or the public officers appointed for the prevention of disease; and these boards, as ordinarily constituted, are shown by Mr. C. to be inefficient. He adds—

> "The statements of the condition of considerable proportions of the laboring population of the towns into which the present inquiries have been carried have been received with surprise by persons of the wealthier classes living in the immediate vicinity, to whom the facts were as strange as if they related to foreigners or the natives of an unknown country. When Dr. Arnott with myself and others were examining the abodes of the poorest classes in Glasgow and Edinburgh, we were regarded with astonishment; and it was frequently declared by the inmates, that they had never for many years witnessed the approach or the presence of persons of that condition near them. We have found that the inhabitants of the front houses in many of the main streets of those towns and of the metropolis, have never entered the adjoining courts, or seen the interior of any of the tenements, situate at the backs of their own houses, in which their own workpeople or dependents reside.
>
> "The duty of visiting loathsome abodes, amidst close atmospheres compounded of smoke and offensive odors, and everything to revolt the senses, is a duty which can only be expected to be regularly performed under much stronger motives than can commonly be imposed on honorary officers, and cannot be depended upon even from paid officers where they are not subjected to strong checks. The examination of loathsome prisons has gained one individual a national and European celebrity. Yet we have seen that there are whole streets of houses, composing some of the wynds of Glasgow and Edinburgh, and great numbers of the courts in London, and the older towns in England, in which the condition of every inhabited room, and the physical condition of the inmates, is

even more horrible than the worst of the dungeons that Howard ever visited. In Ireland provisions for the appointment of Boards of Health have been made, but they appear to have failed entirely."—P. 342.

Mr. C. dwells upon the importance of the functions of medical officers in connection with the executive authority; and, in conclusion, he observes—

"I have submitted the chief grounds on which it appears to me that whatever additional force may be needed for the protection of the public health it would everywhere be obtained more economically with unity, and efficiency, and promptitude, by a single securely-qualified and well-appointed responsible local officer than by any new establishment applied in the creation of new local boards. Including, as sanitary measures, those for drainage and cleansing, and supplies of water as well as medical appliances, I would cite the remarks on provisions for the protection of the public health, made by Dr. Wilson at the conclusion of a report on the sanitary condition of the laboring population of Kelso. After having noted some particular improvements which had taken place, as it were, by chance, and independently of any particular aids of science directed to their furtherance, he remarks that 'it is impossible to avoid the conclusion that much more might still be accomplished, could we be induced to profit by a gradually extending knowledge, so as to found upon it a more wisely directed practice. When man shall be brought to acknowledge (as truth must finally constrain him to acknowledge) that it is by his own hand, through his neglect of a few obvious rules, that the seeds of disease are most lavishly sown within his frame, and diffused over communities; when he shall have required of medical science to occupy itself rather with the prevention of maladies than with their cure; when governments shall be induced to consider the preservation of a nation's health an object as important as the promotion of its commerce or the maintenance of its conquests, we may then hope to see the approach of those times when, after a life spent almost without sickness, we shall close the term of an unharassed existence by a peaceful euthanasia.'"—P. 356.

Section VIII. shows that common lodging-houses are the means of propagating disease and vice; for a town, notwithstanding the perfection of the police connected with drainage, &c., will be liable, if the police of the common lodging-houses is neglected, to the continued importation, if not the generation, of epidemic disease by the vagrant population who frequent them. These houses are pointed out, in the sanitary report of almost every town, as the *foci* of contagious disease within the district. Being stages for the various orders of mendicants who traverse the country in all directions, physical pestilence and moral depravation thus find an easy mode of communication. Let a few examples suffice.

The following from the medical officer of the Barnet union, shows the condition of these lodging-houses in the rural unions:

"The lodging-houses for trampers are a prolific source of disease, and productive of enormous expense to the parish in which they may be situate; from one I have within this week sent into the union work-house six cases, namely, two of fever, three of itch and destitution, and one of inflammatory dropsy. These unhappy beings are boarded and bedded in an atmosphere of gin, brimstone, onions, and disease, until their last penny be spent, and their clothes pledged to the keeper of the house, when they are kicked out and left to the mercy of the relieving officer."—P. 357.

The lodging-houses in Birmingham are thus described by a committee of physicians and surgeons:

"Lodging-houses for the lowest class of persons abound in Birmingham.

They principally exist near the centre of the town, many of them in courts; but great numbers of front houses, in some of the old streets, are entirely occupied as lodging-houses. They are generally in a very filthy condition; and, being the resort of the most abandoned characters, they are sources of extreme misery and vice. These houses may be divided into three kinds,—mendicants' lodging-houses, lodging-houses where Irish resort, and houses in which prostitutes live, or which they frequent.

"We find it stated in Mr. Burgess's return, that in 47 of these the sexes indiscriminately sleep together. In the daytime the doors of these houses are generally thronged with dirty, half-dressed women and children; and if visited in an evening, the inmates are found to be eating, drinking, and smoking. Such houses are, for the most part, occupied by beggars and trampers, but many of them are the resort of thieves. Some idea may be formed of the description of persons who frequent some of these abodes, by stating that in two of them, one of which was situate in John-street and the other in Thomas-street, a chain, fastened at one end by a staple and at the other secured by a padlock, was placed on the outside of the door, at the foot of the staircase which led to the sleeping apartments. Upon asking the mistress of the house for what purpose that was required, she stated that she employed it to lock in the lodgers until she released them in the morning, as they would otherwise decamp, and take away whatever furniture or movables they could carry with them. Some of these houses are occupied exclusively by foreigners. In a court in Park-street we visited one which was inhabited by Italians, men and women, with their stock of musical instruments, monkeys, and other small animals. We are informed that there is another Italian lodging-house in Lichfield-street, as well as one which is frequented only by the Flemish or German broom-girls."—Pp. 357, 358.

The following is the language of the medical officer of the Stockport union:

"The lodging-houses in these districts, which are principally occupied by the Irish laborers, are for the most part very much crowded, and are in a remarkably filthy state. The beds and bedding are not only loathsome to the sight but are extremely offensive to the smell, and are so closely packed that several families may occupy the same room, each bed containing several persons. In such places the married and single often repose together, and the beds are so arranged, that in some instances there is not room for a person to walk between them. I have seen seven persons in the same bed, and last week removed to the infirmary a case of rheumatic fever, with translation of the disease to the heart, from a bed which every night contains *eight* persons. I have generally found that the lower order of Irish laborers occupy the most filthy districts, and that wherever they *colonize*, misery and wretchedness is sure to abound. They are the most common applicants for medical relief at our charity."

"I lately had a case of inflammation of the absorbents of the legs, from a trifling injury to the foot, in an Irish boy, who was living in a dark, damp cellar, about four yards square, in which were two beds. The height of the ceiling was not more than six feet, and yet *seven* persons lay in it, together with a few rabbits. One of the beds had to be removed from the wall on account of its extreme dampness, and so dark was the dwelling at mid-day, that I had to make use of a candle whilst inspecting him."—P. 360.

The medical officer of the Macclesfield union, says:

"I beg to observe that the lodging-houses are a fruitful source of fever. The persons renting these tenements showed greater resistance than others in having their houses properly whitewashed at the time the epidemic cholera appeared. The vagrants who visit these houses are frequently attacked with fever: exposed during the day to the inclemency of the seasons, with their imperfect covering, ragged clothes, and naked feet; at night thrust into a room perhaps of

16 or 20 square yards, having perhaps five or six beds and three individuals in a bed, married and single, male and female, to all appearance indiscriminately lodged. When a case of illness occurs, the lodging-house keeper is most importunate and clamorous in demanding relief from the town; and when obtained, it is quite a question whether it will really be applied to the wants of the sufferer. I have never any confidence that the remedies given will be administered to the patient."—P. 361.

The lodging-houses in Newcastle are thus described by Sir John Walsham:

"There is a considerable number of lodging-houses in Newcastle, some of the rooms of which are frequently occupied by from 15 to 20 persons each. In these houses the most deplorable scenes of profligacy and depravity are met with, both sexes being crowded together in a manner injurious to both health and morals.

"A medical gentleman told me, in Stockton, this morning, that in the common lodging-houses where travelling vagrants are frequently attacked with fever, &c., and in many cases die, the beds are the very next night occupied by fresh inmates, who of course are infected with the same disorder."

"And one of the relieving officers for the same town says:

"'I have frequently had occasion to complain to the magistrates against the lodging-houses taking in so many lodgers; but the law in this respect is so defective that they could render me no assistance. On a Sunday last July, I went to see a man (a travelling musician) who was very ill of the small-pox, and died a few days afterwards. The house contained four small rooms, and was situated in a back yard, in a very narrow, confined, dirty lane. There were 40 people in the house, and they were not all in that lodged there. Four months ago I went into a room in the same yard; the room was very dirty; it was 9 feet broad by 15 feet long, and contained four beds, in which slept two men, four women, and thirteen children. I found in one of the beds two children very ill of scarlet fever; in another, a child ill of the measles; in another, a child that had died of the measles the day before; and in a fourth, a woman and her infant, born two days before; and the only space between the four beds was occupied by a tinker, hard at work."—P. 362.

Section IX. embraces a recapitulation, by Mr. Chadwick, of the chief conclusions which the preceding evidence seemed to him to warrant.

"*First, as to the extent and operation of the evils which are the subject of the inquiry:*

"That the various forms of epidemic, endemic, and other diseases caused, or aggravated, or propagated chiefly amongst the laboring classes by atmospheric impurities produced by decomposing animal and vegetable substances, by damp and filth, and close and overcrowded dwellings, prevail amongst the population in every part of the kingdom, whether dwelling in separate houses, in rural villages, in small towns, in the larger towns—as they have been found to prevail in the lowest districts of the metropolis.

"That such disease, wherever its attacks are frequent, is always found in connection with the physical circumstances above specified, and that where those circumstances are removed by drainage, proper cleansing, better ventilation, and other means of diminishing atmospheric impurity, the frequency and intensity of such disease is abated; and where the removal of the noxious agencies appears to be complete, such disease almost entirely disappears.

"That high prosperity in respect to employment and wages, and various and abundant food. have afforded to the laboring classes no exemptions from attacks of epidemic disease, which have been as frequent and as fatal in periods of commercial and manufacturing prosperity as in any others.

"That the formation of all habits of cleanliness is obstructed by defective supplies of water.

"That the annual loss of life from filth and bad ventilation is greater than the loss from death or wounds in any wars in which the country has been engaged in modern times.

"That of the 43,000 cases of widowhood, and 112,000 cases of destitute orphanage relieved from the poor's rates in England and Wales alone, it appears that the greatest proportion of deaths of the heads of families occurred from the above specified and other removable causes; that their ages were under 45 years; that is to say, 13 years below the natural probabilities of life as shown by the experience of the whole population of Sweden.

"That the public loss from the premature deaths of the heads of families is greater than can be represented by any enumeratiou of the pecuniary burdens consequent upon their sickness and death.

"That, measuring the loss of working ability amongst large classes by the instances of gain, even from incomplete arrangements for the removal of noxious influences from places of work or from abodes, this loss cannot be less than eight or ten years.

"That the ravages of epidemics and other diseases do not diminish but tend to increase the pressure of population.

"That in the districts where the mortality is the greatest, the births are not only sufficient to replace the numbers removed by death, but to add to the population.

"That the younger population, bred up under noxious physical agencies, is inferior in physical organization and general health to a population preserved from the presence of such agencies.

"That the population so exposed is less susceptible of moral influences, and the effects of education are more transient, than with a healthy population.

"That these adverse circumstances tend to produce an adult population short-lived, improvident, reckless, and intemperate, and with habitual avidity for sensual gratifications.

"That these habits lead to the abandonment of all the conveniences and decencies of life, and especially lead to the overcrowding of their homes, which is destructive to the morality as well as the health of large classes of both sexes.

"That defective town cleansing fosters habits of the most abject degradation and tends to the demoralisation of large numbers of human beings, who subsist by means of what they find amidst the noxious filth accumulated in neglected streets and bye-places.

"That the expenses of local public works are in general unequally and unfairly assessed, oppressively and uneconomically collected, by separate collections, wastefully expended in separate and inefficient operations by unskilled and practically irresponsible officers.

"That the existing law for the protection of the public health and the constitutional machinery for reclaiming its execution, such as the Courts Leet, have fallen into desuetude, and are in the state indicated by the prevalence of the evils they were intended to prevent.

"*Secondly. As to the means by which the present sanitary condition of the laboring classes may be improved:*—

"The primary and most important measures, and at the same time the most practicable, and within the recognized province of public administration, are drainage, the removal of all refuse of habitations, streets, and roads, and the improvement of the supplies of water.

"That the chief obstacles to the immediate removal of decomposing refuse of towns and habitations have been the expense and annoyance of the hand labor and cartage requisite for the purpose.

"That this expense may be reduced to one-twentieth or to one-thirtieth, or rendered inconsiderable, by the use of water and self-acting means of removal by improved and cheaper sewers and drains.

"That refuse when thus held in suspension in water may be most cheaply and innoxiously conveyed to any distance out of towns, and also in the best form for productive use, and that the loss and injury by the pollution of natural streams may be avoided.

"That for all these purposes, as well as for domestic use, better supplies of water are absolutely necessary.

"That for successful and economical drainage, the adoption of geological areas as the basis of operations, is requisite.

"That appropriate scientific arrangements for public drainage would afford important facilities for private land-drainage, which is important for the health as well as sustenance of the laboring classes.

"That the expense of public drainage, of supplies of water laid on in houses, and of means of improved cleansing would be a pecuniary gain, by diminishing the existing charges attendant on sickness and premature mortality.

"That for the protection of the laboring classes and of the rate-payers against inefficiency and waste in all new structural arrangements for the protection of the public health, and to insure public confidence that the expenditure will be beneficial, securities should be taken that all new local public works are devised and conducted by responsible officers qualified by the possession of the science and skill of civil engineers.

"That the oppressiveness and injustice of levies for the whole immediate outlay on such works upon persons who have only short interests in the benefits may be avoided by care in spreading the expense over periods coincident with the benefits.

"That by appropriate arrangements, 10 or 15 per cent. on the ordinary outlay for drainage might be saved, which, on an estimate of the expense of the necessary structural alterations of one-third only of the existing tenements, would be a saving of one million and a half sterling, besides the reduction of the future expenses of management.

"That for the prevention of the diseases occasioned by defective ventilation, and other causes of impurity in places of work and other places where large numbers are assembled, and for the general promotion of the means necessary to prevent disease, it would be good economy to appoint a district medical officer independent of private practice, and with the securities of special qualifications and responsibilities to initiate sanitary measures and reclaim the execution of the law.

"That by the combinations of all these arrangements, it is probable that the full insurable period of life indicated by the Swedish tables; that is, an increase of 13 years at least, may be extended to the whole of the laboring classes.

"That the attainment of these and the other collateral advantages of reducing existing charges and expenditure are within the power of the legislature, and are dependent mainly on the securities taken for the application of practical science, skill, and economy in the direction of local public works.

"And that the removal of noxious physical circumstances, and the promotion of civic, household, and personal cleanliness, are necessary to the improvement of the moral condition of the population; for that sound morality and refinement in manners and health are not long found co-existent with filthy habits amongst any class of the community.

"I beg leave further to suggest, that the principles of amendment deduced from the inquiry will be found as applicable to Scotland as to England; and if so, it may be submitted for attention whether it might not be represented that the structural arrangements for drainage would be most conveniently carried out in the same form as in England, that is, by commissions, of the nature of commissions of sewers, adapted, as regards jurisdiction, to natural or geological areas, and including in them the chief elected officers of municipalities, and other authorities now charged with the care of the streets and roads, or connected with local public works.

"The advantages of uniformity in legislation and in the executive machinery, and of doing the same things in the same way (choosing the best), and calling the same officers, proceedings, and things, by the same names, will only be appreciated by those who have observed the extensive loss occasioned by the legislation for towns which makes them independent of beneficent, as of what perhaps might havo been deemed formerly, aggressive legislation. There are various sanitary regulations, and especially those for cleansing, directed to be observed in 'every town except Berwick and Carlisle;' a course of legislation which, had it been efficient for England, would have left Berwick and Carlisle distinguished by the oppression of common evils intended to be remedied. It was the subject of public complaint at Glasgow and in other parts of Scotland, that independence and separation in the form of general legislation, separated the people from their share of the greatest amount of legislative attention, or excluded them from common interest and from the common advantages of protective measures. It was, for example, the subject of particular complaint, that whilst the laboring population of England and Ireland had received the advantages of public legislative provision for a general vaccination, the laboring classes in Scotland were still left exposed to the ravages of the small-pox. It was also complained by Dr. Cowan and other members of the medical profession, that Scotland had not been included in the provisions for the registration of the causes of death which they considered might, with improvements, be made highly conducive to the advancement of medical science and the means of protecting the public health."—Pp. 369—72.

Here follows an Appendix of eighty-five pages, consisting of a variety of documents illustrating the several subjects investigated in the preceding pages. From these, we shall make several extracts in further elucidation of our disgusting theme. See the following description of the habitations and lodgings of the lower orders of Paris:

"Of all the lower orders, the chiffonniers inhabit the most infected and disgusting lodgings. It is vain to expect to descend into the lowest ranks of society,—inequality always appears somewhere. Even the chiffonniers have their notables. There are some a little more economical, a little more raised than the mass, and who enjoy a certain comfort. Those, the most elevated, occupy one or two small rooms, which they hire for themselves and their families; others possess a pallet, which serves them to sleep on, in the chamber of which they are one occupant among many. But this possession is more often collective than personal; and although shared, it does not fail to excite the envy of the poor wretches who lie in a species of trough, on rags, or on handsfull of straw, with which the room is strewed. The police charged with the surveillance of the lodgings inhabited by the chiffonniers give an incredible picture of them. Each occupant keeps by him his basket, sometimes full of filth—and what filth! These savages do not hesitate to comprise dead animals in their gleanings, and pass the night by the side of this stinking prey. When the police go to these places, they experience a suffocating feeling, bordering on asphyxy. They order the windows to be opened when they can be opened, and the severe representations they address to the lodging-house keepers on this horrible mixture of human beings with decayed animal matter, do not move them. They answer, that their lodgers are accustomed to it as well as themselves. A trait of manners peculiar to the chiffonniers, and which might be called their pastime, consists in rat-catching in the courts of the houses which they frequent. They entice the rats by the aid of certain substances attached to the rags they gather in the streets. With this view they put heaps of rags near the holes in the walls, and when they think the rats are buried in the rags, they let loose into the court dogs trained for the purpose, and in the twinkling of an eye, they make themselves masters of the rats, of which they eat the flesh and sell the skin.

The lodgings which receive at night the scum of society are thorough pest-houses. Those even which are not frequented by chiffonniers become, by the crowding of the inhabitants and their filthy habits, dangerous centres of infection. There are some chambers which contain as many as nine beds, separated by small passages hardly wide enough to get through, and these beds are

> often occupied by two persons who do not know each other, and have never seen one another. Difference of sex is no obstacle to these nocturnal and fortuitous cohabitations, although the police neglect nothing to prevent disorders. Among the female apartments there is one which is famous for the picture of decrepitude and abjectness which it presents. The women who occupy it are old drunkards, of whom several are suspected of theft. The spectacle of these animated mummies has something sepulchral.
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> "One must bring to social anatomy a serious spirit of investigation, to form a just idea of the population which lives in the concealed recesses of society. The imagination, however fertile and daring, could never reach, in this matter, to the height of the reality: there is a character, a physiognomy, a strangeness, which it is necessary to have seen in order to assume the responsibility of an historian. Let no one tax with romance the traits of manners nor the description of places contained in this chapter. However softened by the reserve I have imposed on myself, they are not less true at bottom. I have sacrificed the coarseness of the outline and coloring out of respect to decency. It is the only infidelity of which I accuse myself. It is impossible not to feel the necessity to provide an efficacious remedy for a state of things so contrary to the rights of humanity and civilisation."*

Well may it be said that truth is stranger than fiction—a remark excited by the circumstance that here we are presented with a *reality*, which, compared with the *romance* of the "*Mysteries of Paris*," which, it is to be presumed, has been universally read, far exceeds it in wonderfulness! We cannot refrain from giving another extract bearing upon the same point, which, by the way, illustrates literally the trite saying, that *misery makes one acquainted with strange bed-fellows.*

> "There exist in Paris some thousands of individuals who have no domicile—who sleep to-day in one place, the next day in another—and who have recourse every evening to those houses where, for a payment usually very moderate, they can at least obtain a place to lie in, and a covering for their heads. It is not only strangers living temporarily in Paris who lodge in this manner; a mass of workmen, mostly single men, who have not stirred from the capital for ten, fifteen, and twenty years, prefer this kind of life to the occupation of a separate chamber. It may be affirmed, without fear of contradiction, that this population comprises all that is most drunken and debased in society. It is composed of people without foresight, and without a home, living from day to day, and trusting to the hospitals in the case of sickness or infirmity. It is in the lowest places in these disgusting haunts in which a person is lodged for six, four, and even two sous, that the greater part of the prostitutes reside, who can scarcely, after purchasing food, lay aside from their daily gains the trifling sum necessary to avert sleeping in the open air. I have visited some of these lodgings, and it was not without a feeling of pain that I have seen human creatures reduced to live in such places, and that in the capital of France. To give a just idea of these abodes, I will extract some passages from the remarkable report which the inspector-general of furnished lodgings addressed to the prefect of police at the time of the cholera. It tells of nothing but houses in ruin, of straw for beds in a state of putrefaction, of darkness, of infectious smells, of filth without example. These are some of the passages:—
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> "'Rue ——, No. —. This house is remarkable for its excessive dirt. It is a genuine centre of infection. It is inhabited solely by thieves, smugglers, beggars, and prostitutes. It is impossible to enter without being suffocated.
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> "'Rue ——, No. —. This house fixes the attention by its construction and filth. There are no beds, except some loathsome pallets; animal remains, intestines, and the refuse of meals, are rotting in the court; all the chambers

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* Classes Dangereuses, tom. ii., p. 126.

look on a corridor completely deprived of air and light; the sinks and the privies of every story are loathsome from ordure and fecal matter. It is the hideous abode of vice and misery.

"'Rue ——, No.—. The court of this house is four feet square, and is full of dung; the chambers, crowded with occupants, open on it; the privies, dilapidated to the fifth floor, let the fecal matter fall upon the staircase, which is covered with it to the bottom. Many of the rooms have no other aperture than the door which opens upon this staircase. The house is the resort of sharpers, of thieves, of the most filthy prostitutes, and of everything that is most abject of both men and women.

"'Rue du Faubourg ——, No. —. A house occupied from top to bottom by chiffonniers, mendicants, street-organists, street-walkers, and Italian boys, who go about with animals. All these sleep upon rags picked from the street, and of which there is a depôt on the ground-floor. More complete abjectness it is impossible to witness.

"'Rue ——, No. —. This house is the resort of all that is most abased. It is exclusively inhabited by thieves, prostitutes, discharged criminals, beggars, vagabonds, gamesters, and every species of rogues. The greatest filth reigns everywhere; the windows are made of oiled paper instead of glass; the rooms are infected; at each story the ordure of the privies flows upon the staircase.'"[*]

Another French writer, M. Frégier, has given the following description of the external appearance of these abodes:—"'The streets, not, at furthest, more than eight feet wide, are dirty, and flanked by lofty houses, four stories high, which are blackened by time. The height of the houses renders the streets gloomy and damp, and the houses themselves are dark, particularly on the ground-floor. Spirit shops, beer shops, and low eating-houses abound. The gloom of these shops, joined to the repulsive physiognomy of the streets, infuse a secret horror into the visiter who is led there by the spirit of observation, and who knows that the greater part of the shops are the habitual resort of the lowest prostitutes, and of rogues that live in the neighborhood. The lodgings and places of dissipation frequented by this part of the population are worthy, from their filth, of the streets and quarters in which they are situated.'"[†]—Pp. 427,–429.

Another paper of this Appendix refers to the sanitary condition of workers in cotton-mills in Lower Austria. The following passage is quoted from a report which the Commission de l'Intendance Sanitaire du Nord drew up in the year 1832:

"No one without personal inspection can form any conception of the dwellings of our work-people: the neglect in which they live brings evils with it which make their misery unbearable, indeed almost fatal. Their poverty by the negligence and demoralization which produce it, becomes almost destructive. In their dark cellars, in their cellar-like rooms, the air is never changed; it is perfectly poisonous. The walls are covered with filth. If a bed is ever found, it is always filthy, and made up of foul and rotten straw. It is covered with a coarse and dirty rag, the color or material of which can hardly be distinguished; it is a miserable threadbare coverlet. The dirty and worm-eaten pieces of furniture and utensils are thrown about without any order; the closed windows scarcely allow any light to pass through their smoky panes, many of which are stuffed with paper, and (it will hardly be credited) they not unfrequently nail the window fast in order that it may run no risk of being broken in the opening and shutting of it. The floors of their houses are dirtier than the rest of the house, covered with ordure, ashes, rotten straw, and all that has been brought in from the filthy streets outside; it is a receptacle for every kind of vermin. The air is no longer fit to breathe; one feels in these abodes stunned with an overpowering and horrible stench, a smell of excrement, filth of every kind, and of human beings. And the inhabitant of these abodes, in what state is he? His clothes are in rags, and tossed on. His hair has never known a comb, and is covered with the material with which he is working; and his skin, though filthy, is yet distinguishable on his face, but on the other part of his body, concealed by his rags, there are accumulations of every kind. Nothing is so fearfully dirty as the old and wrinkled of these demoralized creatures. Their abdomens distended, their limbs distorted, their backs bent forward, their legs twisted, their necks scarred and full of swellings, their fingers festered, their joints swollen and weak; and, lastly, these unfortunate creatures are tormented, we may say eaten up, with vermin of all kinds."—P. 433.

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[*] Parent Du Châtelet, de la Prostitution, tom. i., p. 504.

[†] Classes Dangereuses, tom. i., p. 135.

We have thus taken *un coup d'œil*, morally, socially, and politically, at the present condition of the "fast-anchored isle," which, boasting a sceptre both by sea and by land, has extended its vast dominions to the outer bounds of the earth—a domain upon which the sun never sets. We have beheld the depressed condition, sunk in poverty, disease, and vice, of the laboring population, the white slaves of this kingdom, which constitute the great masses, compared with the few provided for by their constitution, and the few merchants, tradesmen, and professional men, who have provided for themselves. We thus behold a nation which has attained the summit of human glory; but it is glory decorated in rags—a towering and gorgeous monument which rests upon the necks of the needy multitude, whose constant struggle is for bread!

Art. X.—*A Practical Treatise on the Diseases of Children.* By D. Francis Condie, M.D., etc. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 652.

The considerations which induced Dr. Condie to add another to the very considerable number of works recently published on the diseases of infants, are set forth in his preface. After stating that great attention has recently been given to the pathology and physiology of childhood, he proceeds thus:

> "Several very valuable publications on the diseases of children, have, it is true, made their appearance within a few years past, comprising many of the more recent observations. They are, nevertheless, all of them, deficient in many important particulars—especially, in reference to those forms of infantile disease more commonly met with in the United Sates—while few, if any of them, do full justice to the practical facts that have been contributed by American physicians. There is, consequently, still ample room left,—if there be not an absolute demand,—for a new and more comprehensive treatise."

Few persons, after reading this extract, would suppose that of these "valuable publications" one was by an American physician (Dr. James Stewart, of New York), in which especial attention was given to "those forms of infantile disease most commonly met with in the United States," and very full "justice done to the practical facts that have been contributed by American physicians;" in short, few would imagine that such a book, as "Stewart on the Diseases of Children," existed. On the contrary, we put it to every intelligent and candid man to say, whether the impression that no such work existed is not as distinctly and forcibly conveyed in the above extract, by implication, as if Dr. Condie had made a direct assertion to that effect?

How is this most extraordinary passage to be explained? Are we to suppose that Dr. Condie, envious of the success of Dr. Stewart, was unwilling even to name him or his book? Can it have "entered into the heart of man to conceive" that a work, of which a second edition has already been demanded, could be kept from the public notice, hidden from the public eye, by such a neglect of ordinary courtesy?

Neither of these suppositions would we willingly adopt. Was Dr. Condie, then, ignorant of the existence of any such book? Have his time and attention been so engrossed by his learned labors, and "that somewhat extensive practice," to which he alludes with so much complacency, that he never heard of this book? To this conclusion we are absolutely driven. We embrace it, and commend it to the charity of our readers. The "charity which believeth all things," may believe that Dr. Condie's course in this matter is to be attributed not to an unwillingness to notice, lest he might be, for very shame, compelled to do justice to a highly meritorious cotemporary publication, nor to a desire to keep out of sight a work with which he was afraid to have his own compared. To neither of these causes is it owing that Dr. Condie all but asserts, that there is no recent American work on the diseases of infants. This all-but-assertion is to be attributed not to Dr. Condie's malice, but to his ignorance. He knew no better.

Having, however, for Dr. Condie's special benefit, stretched our charity thus far, we are compelled, by our sense of justice, to say a word or two, not by way of threat, but only of friendly warning. There exists, in certain quarters, a great disposition "to do justice to American physicians," provided always that they are not New York physicians. If, however, they are so unfortunate as to hail from the commercial metropolis, small benefit have they of this vaunted desire to do justice. This disposition, which has existed for some time, has not unfrequently "borne fruit in deeds." In former days this was, if not generous, at least safe—*but it is safe no longer.*

In the position which New York now occupies in relation both to medical learning and medical teaching, this "*small game*" must be played no longer. There will be nothing won at it. But let us return to Dr. Condie. An analytical review of a work like this cannot be expected. All that we or our readers have time for, is a general notice of the manner in which the book is written, with remarks on any peculiar opinions or modes of practice.

As to the getting up of the book, it is not much to our taste. The tone of arrogance which pervades the preface, is carried through the body of the work; and there is a disposition, by the frequent introduction of the names of authors, without any distinct reference to their works, to make small learning pass for great things, which is not admired by those who see through it. Again: the accumulation of prescriptions may impress students with the idea that this is, *par excellence*, "a practical treatise." But when they come to find that the same prescription is given at large over and over again, they must be tyros, indeed, if they do not appreciate the "purely practical character" of the work.

As to the style of the book, we will not be over critical. It is, to be sure, a luxury of no ordinary relish to read a medical book written by a scholar; but, then, it is not to be denied that many medical men are ignorant, and rather careless as to the rules of composition; and, as we said before, we will not be hyper-critical, but rather pass to the notice of the modes of practice commended by the author.

We shall give our readers clear notions of this part of the subject, by saying, once for all, that Dr. Condie is a great giver of physic, and that he gives it in very large doses; *e. g.*, at page 130, we are recommended to give quinine to an infant at the rate of four grs. a day. But, then, mammoth doses of quinine are now all the rage, especially among the army doctors in Florida. On page 165, calomel, grs. iv., every three hours, (grs. xlviii. being prescribed,) are ordered. On page 168, pulv. gallæ, grs. v., every three hours; on page 216, acet. plumbi, gr. i., three times a day, or *oftener;* and, finally, page 362, extr. hyosciami, grs. ii., is commended as a "*gentle narcotic*" for an infant of two or three months! In the second place, Dr. C. is what is called, in popular phrase, *a great calomel doctor*. Calomel, with him, is everything, and everything is calomel. For stomatitis, calomel, magnesia, and ipecac (p. 130); for difficult dentition, calomel, magnesia, and ipecac (p. 153); for tonsolitis, calomel, and ipecac (p. 156); for diphtherite, calomel, magnesia, and ipecac (p. 165); for chronic gastritis, calomel, magnesia, and ipecac (p. 189); and finally, as we are weary of this everlasting reiteration, for "mild mucous and serous diarrhœa," one or two grs. of calomel every two hours!

Now, we had a right to expect that a gentleman who values himself so much upon being up to the times in medical practice, should have known that the day for this *calomel-doctoring* has gone by. The pathology of mucous membranes is too well understood for us to admit of this wholesale calomelizing.

Another manifestation of the disposition to over-doctering which pervades this unhappy book, is the constant commendation of blisters. At page 215, for example, we find this most miserable piece of advice. "*In all cases* of chronic diarrhœa, the derivative effects of blisters to the abdomen are advantageous, and often very decidedly so; and, in many cases, the blisters may be repeated as soon as the first heals." What would be thought of the practitioner who blistered the abdomen "*in all cases* of chronic diarrhœa in infants?"

We have now given our readers an idea of some of Dr. Condie's peculiarities as a practitioner; and, having done so, we close this notice. We shall pronounce no opinion upon the general merits or absolute value of his book, having given our readers an opportunity of forming such opinion for themselves.

It is with pain that we have referred to the Chinese notions of "outside barbarians," entertained by too many of the medical men of the self-styled "medical metropolis of the western continent." E. M.

Art. XI.—*Annual Report of Surgeon-General* Lawson *to the Secretary of War, for the fiscal year ending on the 30th September,* 1843.

Passing over the "statement of the fiscal transactions," we shall give so much of this succinct, but comprehensive, Report, as pertains to the operations of the medical department of the army.

"The number of cases of indisposition which have been under treatment in the army, during the last twelve months (see report, marked A),* was 27,734; 26,820 of which occurred within the past year; 914 being cases that remained of the preceding year.

"Of the whole number of sick, 26,513 have been restored to duty, 309 have been discharged the service, 18 have deserted, and 160 have died; leaving on the 30th September, 726 still on the sick report.

"The mean strength of the army for the last twelve months has been about 9,863: and as the number of sick, during the same period, was 27,734, and the aggregate of deaths was 160, it will appear that the proportion of cases of indisposition to the number of men in service, was as 281-100 to 1, or 281 per cent; the ratio of deaths to the number of men, as 1 to $61\frac{5}{8}$, or a fraction less than $1\frac{2}{3}$ per cent; and the proportion of deaths to the number of cases treated, as 1 to 173 7-100, or 57-100 per cent.

"A medical board for the examination of assistant surgeons for promotion, and of applicants for appointment to the medical staff of the army, was convened in the city of New York on the 1st of July last.

"Before this board one assistant surgeon presented himself for examination; and, having been found qualified, he was recommended for promotion.

"From among the applicants for appointment, twenty-four were invited to the examination, fourteen of whom only reported to the board; ten having declined, or failed to present themselves for examination.

"Of those who reported to the board, three afterwards withdrew without an examination; one was objected to, on account of physical disqualifications; and ten were examined; and of these last, four were approved and recommended for appointment.

"In conformity with the will of Congress, expressed and implied, an additional number of barometers has been purchased and placed at the prominent positions in our country; and the medical officers have been required to give all the attention to meteorology practicable, compatible with their duty to the sick, and other higher obligations to the Government; so that, in addition to the thermometrical and other meteorological observations which have been heretofore received from the different military posts, we shall be able to report barometrical observations also, from most of the important stations in the United States.

"From the report and accompanying charts of Mr. Espy, the meteorologist, herewith presented, it will be seen that he has been zealously engaged in prosecuting his investigations into the various phenomena accompanying storms, with the view of demonstrating the laws by which the whole are governed.

"From data derived from observations taken in every section of the United States, Mr. Espy has, with very great labor, framed these maps, exhibiting to the eye, as he says, 'the progress of storms through the United States, from west to east, accompanied always with a depression of the barometer, and strong winds on each side blowing towards the line of least pressure,' &c.

"Charts like these he contemplates preparing quarterly throughout the year, should Congress deem it expedient to sanction the proceeding; and as the work assigned him will not be complete, nor the result of his observations and investigations so clearly and satisfactorily illustrated, without these exhibits of barometrical curves, &c., I respectfully recommend the project to the favorable consideration of those whose province it is to foster the undertaking.

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* This table is here left out.—Editor.

'I deem it to be my duty to call the attention of the Department of War and of Congress to the fact, that, at many of the forts on the seaboard, no proper buildings have been erected for the accommodation of the sick of the garrison.

"As a general rule, in the absence of all accommodations outside of the walls, some of the casemates of the fort are allotted to the purposes of a hospital; where, in addition to the want of privacy, and deficiency of ventilation and of light, the sick are constantly annoyed by the tramping of the other men, and the clangor of their arms within the area of the fort, and frequently shocked by the thunder of the cannon, and the rattling of the battlements over their heads.

"In further illustration of my views on this subject, I beg leave to give here a transcript of my report, made on a late occasion, touching the propriety and the necessity of having distinct buildings for hospitals erected near our permanent fortifications.

"'Whether the Engineer Department estimates for funds with which to construct buildings for hospitals, or Congress, in their appropriations for fortifications, contemplate the erection of suitable permanent hospital establishments, I know not; but, whatever may have been the practice, or the opinions heretofore prevailing on this subject, it is a matter, in my humble judgment, deserving of the serious consideration of the Department of War.

"'I hold that an appropriation of money for the building of fixed fortifications, or a permanent military work, provides not only for the construction of the walls of the fort and the batteries, but also for the erection of barracks, hospitals, and other indispensable accommodations for the men, sick and well, who are to occupy the post and serve the batteries.

"'A military work without barracks, hospital, store-houses, &c., is incomplete; a fortification without these essential appurtenances, is a mere battery—a work of inferior character, it seems to me, to those contemplated generally in the appropriation acts of Congress.

"'As the officers of engineers are the persons who plan and superintend the construction of our permanent fortifications, they understand best the several points of offence and defence, and can better adapt the accommodations for the men to the size and figure of the work, than any other agents of the goverument. And as under a general contract for erecting a fortress, embracing barracks, hospitals, and other appurtenances, as well as the fortifications proper, better terms can be obtained than by a special agreement *afterwards* for the construction of the necessary accommodations for the officers and men, there cannot be a doubt as to the propriety of having the whole work done according to one original design, and under the control of one and the same department.

"'The present seems to be an opportune time for me to give an expression of opinion, also, touching another matter involving the health and efficiency of the men who are to garrison our fortifications.

"'It is a question, and one which has never been satisfactorily decided, whether the casemates of a fort can be with propriety assigned exclusively as the quarters, &c., for the officers and men who are to occupy the work in time of peace. As a professional man, I have no hesitation in saying that, *in general*, casemated rooms cannot be occupied as quarters, with the same prospect of health and comfort that distinct buildings within the area of the fort, or outside the work, can afford.

"'Were it possible to construct casemates so that they could be kept dry, and preserved also in a uniform temperature, military propriety, as well as economy, would seem to require that so much space within a garrison should not remain unappropriated. But as our experience proves that casemated rooms are invariably damp, and with a temperature of air very different, in summer and in winter, from the external atmosphere, it must be conceded that they are not, on the score of humanity, or of economy even (having reference to the sickness and permanent invaliding of the men), suitable quarters for troops.

"'Casemates, like the batteries of a fort, are intended for the purposes of war; they will give shelter and protection to the temporarily increased force of garrison during the presence of an enemy, and men under those circumstances will readily submit to the necessities of the case. Until this time of need, however, I think it will be good policy to let the casemates remain bare walls, for the protection from the weather of spare cannon and other implements of war, reserving the money that would otherwise be expended in fitting up these places as quarters, for the erection of distinct buildings for the accommodation of the officers and men who are to garrison the fort.'

"The objection to having barracks, hospitals, &c., erected outside the walls of our forts is, as I understand, that they destroy the military appearance of the place, and, by masking the rear battery, interfere with the fire from the guns on the line of defence.

"This may be a valid objection with the scientific engineer, whose laudable pride it must be to display the fortress which he has erected in all its strength and grandeur of appearance. I, however, whose province it is to suggest measures conservative of health in the army, and whose duty it is, too, to advocate the cause of the sick and invalided soldier, cannot be brought to subscribe to the wisdom of a policy, which would withhold from the officers and men who are to occupy these forts the ordinary comforts, and abridge them of the accommodations essential to their health, under the supposition that some time or other (perhaps in the hundredth year) the work may be attacked, and the use of all the guns required, unincumbered with a hospital or other buildings outside of the fortification. Barracks, hospitals, &c., distinct from the walls of the fort (and which can be built at as little expense, I apprehend, as fitting up casemates for quarters), will give accommodation and comfort to the garrison for forty or fifty years; and should eventually, one or more of our many works of defence be besieged or stormed by an enemy, why, the buildings that mask the guns, or cover the assailants, may be readily burnt down, or battered down by our own cannon."

ART. XII.—*An Elementary Treatise on Human Physiology, on the basis of the Précis Elémentaire de Physiologie. Par F. Magendie, Membre de l'Institute de France, etc. etc. Fifth edition.* 1838. *Translated, enlarged, and illustrated with diagrams and cuts. Especially designed for the use of students of medicine.* By JOHN REVERE, M. D., Professor of Medicine in the University of the city of New York. New York: Harper & Brothers. 1844. 8vo. pp. 539.

UNLIKE the majority of modern systems of physiology, which are a mere compilation of the experiments and doctrines of others, all the important questions discussed in the volume before us, have been thoroughly examined and experimented upon by the distinguished author. Than M. Magendie, there is no physiologist, since the death of Sir Charles Bell, that holds, as an original observer and inquirer, an equal rank; and as he has been unsurpassed in opportunities of observation and in the facility of experimenting on living animals, so have his individual efforts contributed much to the present high state of the science.

As early as the year 1822, Professor Revere published a translation of Magendie's "Summary of Physiology," which was very favorably received by the profession. Since then, the original work has gone through several large editions; and as the science of physiology has, in the interim, undergone a complete revolution in many points, in the accomplishment of which a very conspicuous part was acted by our author, the work before us, entitled the "*Précis Elémentaire de Physiologie,*" brings down the science to the present day. To this Dr. Revere, the translator and editor, has made numerous additions on subjects which he supposed had not been treated sufficiently in detail by the author himself.

Besides, he has added a large number of diagrams and pictorial illustrations of the different organs and structures. "In a word," he says, "it has been his aim to present a system of human physiology which shall exhibit in a clear and intelligible manner the actual state of the science, and adapted to the use of students of medicine in the United States."

In the accomplishment of this object, Dr. Revere has spared no labor. Indeed, he has augmented the work by one-fourth, if not as much as one-third, by the introduction of many highly important subjects. For example, he gives an entirely new chapter on the characteristics of man. Again, he furnishes a highly interesting account of the very marked physiological and psychological phenomena, afforded by the case of Laura Bridgman, as reported by Dr. Howe; and which we should here present to our readers, were it not that Dickens' "*Notes*" have already made the subject familiar to every man, woman, and child, throughout the land. In fine, the American Editor has fully accomplished what he has proposed to himself in undertaking this work, which is, to make a volume adapted to the use of medical students in the United States.

As our medical press, at this time, teems with productions in every department of medicine, such a notice of each work as our inclination would prompt, is entirely precluded from our pages. As regards *elementary* works, a brief and comprehensive notice is of course all that our readers will expect; while we shall always endeavor to secure for each Number of the Journal, an analytical review of one or two new volumes, having original characteristics, as for instance, those of the Report on the sanitary condition of the laboring population of England, found in this Number.

ART. XIII.—*A Practical Treatise on Midwifery.* By CHAILLY, Doctor of Medicine and Ex-chief of the Obstetric Clinique of the Faculty of Paris, Professor of Midwifery, Member of the Society of Medical Emulation, etc. Accompanied with 216 wood-cuts. A work adopted by the Royal Council of Public Instruction. Translated from the French, and edited by GUNNING S. BEDFORD, M. D., Professor of Midwifery and the Diseases of Women and Children in the University of New York. New York: Harper & Brothers. 1844. 8vo. pp. 552.

SPEAKING of Midwifery, we are involuntarily led to congratulate the Professor of this branch of medicine upon so propitious a delivery—a bantling which is neither still-born, nor is it, in the language of Malthus, "*born into a world already possessed.*" Having now a market at home in the students that crowd our lecture-rooms and the cliniques of our hospitals, we find, in the two new text-books noticed in this Number, an earnest of the future, and an evidence that this supply is merely in response to the crying demand.

We have in this volume an exact reproduction of the opinions of the well-known and highly appreciated P. Dubois, whose pupil M. Chailly was for many years. He was thus trained to practical knowledge not only by an excellent master, but by his own personal experience acquired through an attendance of years at the Maternité and the Clinique d'Accouchemens of Paris; nor has he neglected to avail himself, in order to render his treatise what it ought to be, of the labors contained in the excellent publications of Madame Lachapelle, of Desormeaux, of MM. Nægele, Velpeau, Stoltz, Moreau, etc. The book is essentially practical, M. Chailly having purposely abstained from the discussion of points merely speculative or scientific.

Although we can say conscientiously that this work will bear comparison with any other as a practical guide, yet we cannot coincide with all M. Chailly's opinions. As regards the Cæsarean section, for example, we differ from him *toto cælo.* "We have not," says M. Chailly, "had within the walls of Paris, a single example of a woman who has survived the Cæsarean operation." In one instance, a woman operated upon by M. Dubois, lived seventeen days (being the longest period), when she died of tetanus, notwithstanding the promise of the most favorable issue. Upon this point, the American editor has the following judicious remarks :

> "The Cæsarean section is, undoubtedly, a dread alternative for the accoucheur to choose, but I cannot agree with Dr. Chailly, that its fatality is as great as he represents ; nor am I disposed to adopt the opinion, unfortunately too general, that craniotomy is almost always to be preferred to the Cæsarean section. In truth, it needs some nerve, for a man of high moral feeling, and much evidence as to the necessity of the operation, before he can bring himself to the perpetration of an act which requires, for his own peace of mind, the fullest justification. The man who would wantonly thrust an instrument of death into the brain of a living fœtus, would not scruple, under the mantle of night, to use the stiletto of the assassin. Yet, how often has the fœtus been recklessly torn from its mother's womb piece-meal, and its fragments held up to the contemplation of the astonished and ignorant spectators as testimony undoubted of the operator's skill ! Oh ! could the grave speak, how eloquent, how momentous, how damning to the character of those who speculate in human life would be its revelations !
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> "Independently of the abuse of this operation (craniotomy), of its unjustifiable frequency, let us for a moment look at its relative fatality, when compared with the Cæsarean section.
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> "According to the statistics gathered by Dr. Churchill, among British practitioners, craniotomy is resorted to 1 in 219 cases ; among the French, 1 in 1205 cases ; among the Germans, 1 in 1944⅓ : the average, therefore, of these three nations will be 1 in 896½. In 252 cases, 52 mothers died, or about 1 in every 5. As regards the Cæsarean section, the same author states, that since 1750 he has collected 321 operations, from which 149 mothers recovered ; and that in 187 cases, where the result is mentioned, 130 children were saved, and 57 lost.
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> "Hence, then, we have a calculation showing that in craniotomy, where, of necessity, all the children must be sacrificed, one woman out of every five died ; while in the Cæsarean section, one mother recovered out of two and a fraction, and the success to the child was certainly most fortunate.
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> "But, again, we only hear of the *deaths* in the proportion of 1 to 5 of women who have been subjected to the hazards of craniotomy ; nothing is said of the dreadful lacerations and destruction of the soft parts, which often entail on the sufferer distress and anguish to which death itself would be preferable. I do not believe it is possible to remove a child by embryotomy when the antero-posterior diameter of the superior strait measures less than two inches, without subjecting the mother to severe hazard, provided the child be of the ordinary size. My opinion on this subject is not a speculative one ; it is based on repeated experiments made on a wooden pelvis constructed for this purpose ; and I am satisfied that, even with the space of two and one-fourth inches, all the dexterity which the operator can bring to his aid will be required to protect the mother from serious, if not fatal, injury. Authors, therefore, I think, must have labored under some error on this subject. For example, Dr. Davis states that craniotomy is admissible when the diameter is only one inch ; Dr. Burns, when it is one and three-fourths ; and Dr. Osborne, when it is one and a half inches. I can-

> not but protest against any such deductions, and, therefore, without hesitation, would prefer the Cæsarean section (if I had certain evidence that the child lived) to any attempt to extract it *per vias naturales*, if the antero-posterior diameter measured less than two and one-eighth inches. The object of craniotomy is to save the life of the mother by sacrificing that of the child. This object cannot, in my judgment, be attained without occasioning the most serious results (even admitting she survive the operation) in a contracted pelvis such as is described by Drs. Burns, Osborne, &c."

To view this important question in its proper light, we ought to estimate as nearly as practicable the relative chances of life on the part of the mother. As the child is the certain sacrifice in craniotomy, it ought to be performed only when the antero-posterior diameter of the superior strait is of sufficient width not to endanger the life of the mother. If it does not exceed two inches, the Cæsarean section is preferable, inasmuch as this operation gives a chance of life both to the mother and the child. At all events, the experience of France is, by no means, decisive of the question. As our space, at this time, will not allow a fuller analysis of this excellent treatise, we must content ourselves with one or two further extracts. The following note by the editor, of a highly interesting case, which appears under the head of Molar Pregnancy, is worthy of being here presented :

> "In 1839 I received a note, requesting me to visit, without delay, a lady who was residing in the State of New Jersey, about thirty miles from this city. I immediately repaired to her residence, and on my arrival was received by her father, a venerable and accomplished gentleman. He seemed broken in spirit, and it was evident that grief had taken a deep hold of his frame. On being introduced into his daughter's room, my sympathies were at once awakened on beholding the wreck of beauty which was presented to my view. She was evidently laboring under phthisis, and it appeared from her wasted form that her days were numbered. My presence did not seem to produce the slightest disturbance, and she greeted me with this expression, " Well, doctor, I am glad to see you on my beloved father's account, for he will not believe that I cannot yet be restored to health. Life has lost all its charms for me, and I long for the repose of the grave." These words were spoken with extraordinary gentleness, but yet with a firmness that gave me an insight into the character of this lovely woman. From her own lips I received the following history of her case. Her father was a clergyman of high standing in the English Church, and had a pastoral charge in England, in which he continued until circumstances rendered it necessary for him to leave that country and seek a residence in America. At a very early age she had lost her mother, and was almost entirely educated by her father, whose talents and attainments admirably fitted him for this duty. When she had attained her eighteenth year, there was an attachment formed between her and a young barrister of great promise and respectability. This attachment resulted in a matrimonial engagement. Soon after the engagement, she began unaccountably to decline in health. There was considerable irregularity in her menstrual periods, with more or less constant nausea, loss of appetite, inability to sleep, feverishness, and an uncontrollable dislike to society; besides, there was a general change in her personal appearance : her abdomen became enlarged, her breasts increased in size, &c. These changes soon attracted the attention of some of her female acquaintances, and rumor was uncharitable enough to suspect her virtue. The barrister to whom she was affianced heard of these reports, and, without a moment's delay, wrote a letter to her father, begging to be exonerated from his engagement. This was assented to without hesitation. The young lady, conscious of her own innocence, requested that a physician should be sent for, in order that the nature of her case might be ascertained. A medical man accordingly visited her, and, after an investigation of her symptoms, he, no doubt from very philanthropic motives, informed the father that she was pregnant, and that means should be immediately taken to keep the

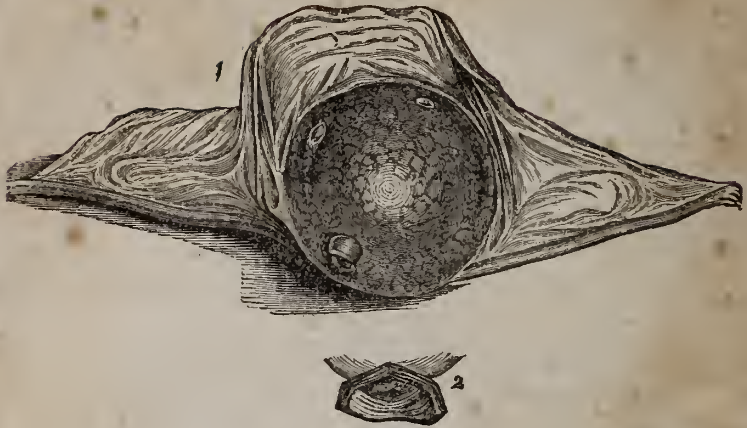
unpleasant matter secret. The father, indignant at this imputation against the honor of his child, spurned the proposition, and instantly requested an additional consultation. This resulted in a confirmation of the opinion previously expressed, and the feelings of that father can be better appreciated than described. Without any delay, that good man determined to resign his living, gather up his little property, and proceed with his daughter to America. On his passage to this country his daughter became extremely ill, and as there was a physician on board the steamer, his advice was requested. After seeing the patient (she was at that time laboring under excessive vomiting from sea-sickness), he told the father that he apprehended that she might have a premature delivery. Such, therefore, was the general appearance of this lady, that a physician, merely judging from *appearances*, at once concluded she was pregnant.

"This was about the substance of what I learned of the previous history of this lady; and my opinion was then requested as to the character of her malady. My feelings were naturally very much enlisted in her behalf, and I proceeded with great caution in the investigation of her case.

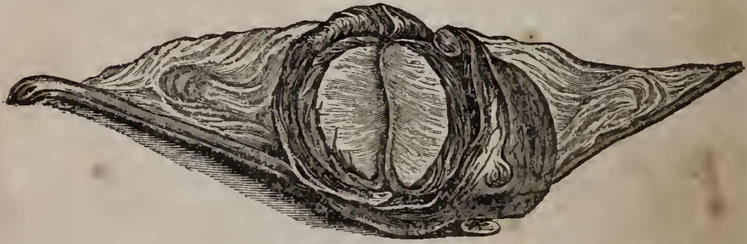
"In placing my hand upon the hypogastric region, previously flexing the thighs upon the pelvis, I distinctly felt an enlargement, which, from its circumscribed character and position, I recognized to be the uterus. The abdomen was excessively tympanitic, and as much distended as it usually is at the seventh month of gestation. In making a vaginal examination, the enlarged uterus was plainly felt, and it presented a hardness to the touch which I had never before experienced. It was not the hardness of *scirrhus*, nor was there any pain experienced on pressure. The os tincæ was slightly dilated and perfectly circular. Projecting through it I felt a small body, which to the touch seemed to be of a calcareous nature. I could readily grasp the uterus between one hand applied to the hypogastric region and the finger introduced into the vagina; and it appeared to equal in size the fœtal head at full term. The organ appeared to be much more rounded in its development than is usual in pregnancy; and, on introducing the finger into the rectum, the same hardness of the tumor was experienced that was observed in the vaginal examination, but an entire freedom from pain. It was very evident that there was no pregnancy, and without hesitation I gave this as my opinion; at the same time stating that the enlargement of the womb depended most probably upon some internal growth, the precise nature of which I could not determine. That it was not a polypus was evident from the absence of all the symptoms which usually characterize it. After I had expressed my opinion that she was not pregnant, the only observation this interesting creature made was, 'Doctor, you are right.' These few words were full of meaning, and their import I could not but appreciate. The father was soon made acquainted with the result of my examination, and he seemed perfectly unmoved as I expressed to him my opinion. It was evident that he had never faltered for one moment in the belief of his daughter's virtue, and required no assurance from me or any other living being that his child had been cruelly abused. He asked me with great solicitude whether something could not be done to restore her to health; and his agitation was extreme when I told him that his daughter was in the last stage of consumption. I left him with the pledge that he would inform me of her dissolution, and afford me an opportunity, by a *post-mortem* examination, of testing the truth of my opinion. About four weeks from this time I received a note announcing the death of this lady, and requesting that I would immediately hasten to the house, for the purpose of making the autopsy. Dr. *Ostrom*, now practising in Goshen in this State, at my request, accompanied me, and assisted in the examination. It was discovered that the enlargement of the uterus was in consequence of a fibrous tumor which occupied its whole internal surface; and the small body which I had felt projecting through the os tincæ was a calculous concretion, of which there were several attached to the tumor. Plate No. 1, shows the exterior of the tumor; fig. 2, the circular character of the os tincæ. Plate No. 2. exhibits the internal structure of the tumor, with several small calculous concretions.

"The mere narration of this case carries with it its own comments; and I trust a proper moral may be drawn from its perusal."

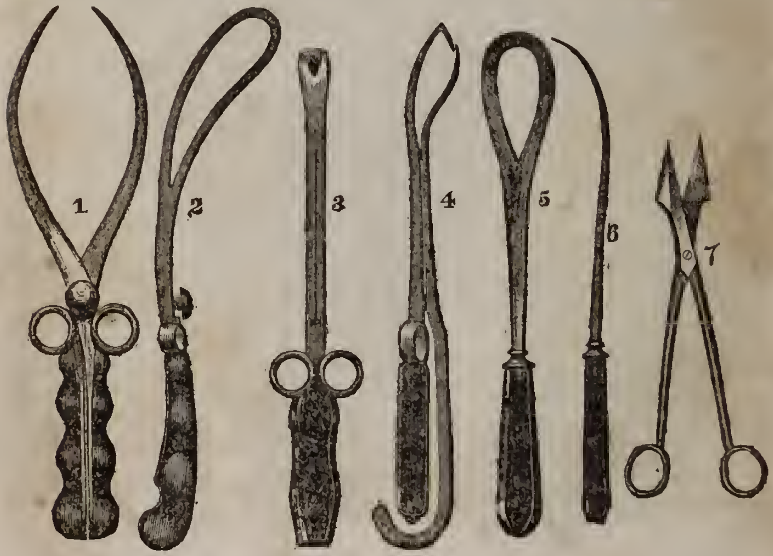
(Plate 1.)



(Plate 2)



Dr. Bedford seems also to have given considerable attention to the improvement of obstetrical instruments, which are here represented:



"The crotchet," he says, "is, indeed, a murderous instrument; and its use has been followed by the most fatal results. Under the most favorable circumstances, and in the most dexterous hands, it often does harm. It is well understood that it is never to be applied except on a dead child, or where the operation of embryotomy is called for. Its chief danger, therefore, regards the mother; for the purchase which this instrument takes on the child almost always gives way, and if the accoucheur is not particularly guarded, the soft parts of the mother, the bladder, rectum, or vagina, will be lacerated, often giving rise to the most disastrous consequences. To obviate this injurious tendency of the instrument, I have caused a guard crotchet (fig. 4 in the adjoining plate) to be constructed, which I offer to the attention of the profession, allowing its merits to rest upon the judgment they may form of its utility. The adaptation of this instrument to the particular indications to be fulfilled in the use of the crotchet will, I think, be found to be all that can be desired. Fig. 3 presents a front view, and in the centre of the blade is a groove for the reception of the guard, which slides with great facility to the point of the crotchet. The extremity of the guard on its external surface is convex and smooth, and so completely conceals the sharp point of the crotchet, as entirely to protect the soft parts from injury, even if the crotchet should slip during the tractions made on it by the accoucheur; for, in that event, instead of the bladder, rectum or vagina being torn by the point of the crotchet, these parts will suffer no injury, for the smooth surface only of the guard comes in contact with them. It will be seen that, at the other extremity of the guard, there is the ordinary blunt hook. This is important only as a matter of economy.

"Fig. 1 represents my forceps, which I believe embodies some important improvements; whether profitable or not, must also depend upon the judgment of my professional brethren. The curve of the blades, their lightness, and thinness (sufficiently strong, however, for all ordinary purposes), I regard as very essential improvements. The blades of the forceps are usually too thick, unnecessarily so; for this circumstance frequently prevents their introduction, especially if the head be unusually large, or the pelvis somewhat contracted. In my judgment, therefore, the thinner the blades, consistent with the strength required, the more advantageous will the instrument be found. Instead of the pivot lock, my forceps has the button joint, and the advantage of this mode of articulation over the pivot will be at once conceded on testing the relative facility of locking the branches. It appears to me that accoucheurs generally have paid too little attention to the handle of the forceps. I certainly do attach great value to this portion of the instrument, and I am well satisfied that the indifference of practitioners to this point has frequently led to failure in its application. In order to extract the head of the fœtus safely, something more is required than the mere adjustment of the blades; and if proper traction be not made, and proper *direction* given to the traction, the child will often be sacrificed, and severe injury ensue to the soft parts of the mother. To obviate these difficulties, therefore, and to furnish every facility for the safe extraction of the child, I have provided a handle (fig. 2) of sufficient length and curve. The curve at the extremity of the handle will afford greater facility to the operator, and give him more power than any forceps I have yet seen. To be satisfied of this fact, it is only necessary to apply the instrument on the manikin. The length of the handles likewise affords a proper lever for the tractions. The two rings will enable the operator to give proper direction to the force he employs, and will, at the same time, facilitate very much the lateral motion so essential to impart to the child's head during the stages of its delivery. Fig. 7 represents my pierce-crane, or perforator. Fig. 5 is the ordinary vectis.

"It is due to myself to state, that these instruments are not presented to the consideration of the profession from any fondness that I have for fame as an *inventor*—my ambition lies in a different channel. But they are the result of much reflection; and all I ask is, that they may receive that degree of favor to which, on fair trial, they may be found legitimately to entitle themselves.

"Mr. Goulding, 35½ Chatham-street, an ingenious and established cutler, is the manufacturer of these instruments, and deserves my thanks for the elegant finish he has given them."

The American editor was led to the selection of this work on account of its great practical merit, combined with pathological views equally valuable; and he has added to it, in the way of copious notes, much that is of a practical tendency.

ART. XIV.—*Principles of Medicine: comprising General Pathology and Therapeutics, and a brief general view of Etiology, Nosology, Semeiology, Diagnosis, and Prognosis.* By CHARLES J. B. WILLIAMS, M. D., F. R. S., Professor, etc. With additions and notes, by MEREDITH CLYMER, M. D., etc. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 384.

The same " with numerous additional notes, explanatory and critical, by the Editor of the Select Medical Library and Bulletin of Medical Science." Philadelphia: Edward Barrington and George D. Haswell. 1844. 8vo. pp. 396.

THE author's apology for the appearance of this publication, " that there is at present no work which fully treats of the subject of general pathology and its application to practical medicine," seems to have been wholly uncalled for, if we may judge from the circumstance, that two republications, each newly enriched with the valuable labors of an American annotator, have already appeared. Dr. Clymer's chief additions will be found in the sections on the blood, on diagnosis, and on prognosis, while two new chapters, one on fever and the other on hygiene, have been added. On the other hand, Dr. John Bell, whom, as well as Dr. C., we have the honor of claiming as brother editors, has been more copious in his notes, growing perhaps out of the fact, mentioned by himself, that on these subjects he had previously prepared a full course of lectures, and on some of the topics, he had published essays and even volumes. The amount of new matter furnished in these notes is about sixty pages. As the following extract from Dr. Bell's preface coincides with our own views, we will here introduce it to the reader:—

> " The most correct idea of the present work, the one by which justice will be done to the intentions of the author, and the reasonable expectations of the reader gratified, is, to regard it as outlines, a text book in fact, rather than a comprehensive and finished treatise. While admitting its intrinsic merits and its additive character, on the subject of that part of pathology which chiefly engaged the author's attention, it would be affectation not to say, that, in some other parts, there is both meagerness and want of precision in doctrine and language. On pathogeny or pathology proper, as he terms it, the author has furnished data, in facts and suggestions, of undoubted value and freshness, for further elaboration and expansion; nor is there any lack, in the present volume, of frequent and available, if not actually novel, therapeutical deductions for practical medicine. The revelations of the microscope have enabled the author to enrich his pages by an exposition of minute morbid changes in the textures and fluids, explanatory of various pathological phenomena. It may be objected, however, that he has studied the ultimate organic elements, thus revealed, in connection with vital properties, somewhat to the exclusion of the proximate organic systems, or textures; and that he dwells on the modifications of the properties of the blood-vessels, to the oversight of those of the nervous system and its offices of maintaining sympathetic and associated actions.

"Therapeutical indications cannot be deduced from morbid anatomy. It remains to be seen whether organic chemistry and microscopy will be sources of more certain reliance; for, as yet, the indications which they have furnished have been anticipated by the results of experimental observation of vital actions and of clinical trials. In the present work, the practical deductions from this new fashion of pathology, the histogenic and chemical, are calculated to produce an impression of novelty, which is not sustained by a view of all the premises. The general inference, for example, drawn from the buffy and cupped appearance of the blood, that inflammation is present, and the exceptions to this view in particular cases, were taught and acted on long before recent hematology revealed the proportions of fibrin in this fluid. So, also, the excess of blood and its richness in plethora and in sthenic hemorrhages was well known, anterior to the demonstration of a superabundance of globules in these cases. Poverty of the blood in asthenic hemorrhages, chlorosis, scurvy, and other forms of anemia, was clearly admitted, until solidism, in its pride and exclusiveness, put the facts aside and set up a doctrine of its own. Equally well ascertained and proved by long experience, was the efficacy of chalybeates and a properly selected nutritive food for the cure of these affections.

"It is, however, a no small gain in the progress of experimental inquiry, to have ascertained the material origin of various pathological phenomena, and thus to be protected against future fluctuations of doctrine. We advance, also, with more confidence in the line of therapeutical indications, when we can positively connect in our minds, as the result of microscopical and chemical discoveries, the operation of a remedy with an ascertained change in the ultimate organic elements of the fluids and solids of the body. The present volume contributes a full share towards satisfying our minds on these points, and gratitude is due to its author accordingly.

"The title of this work is too comprehensive for the subjects discussed in its pages; and in the instance of General Pathology especially it will be a subject of regret that the author did not either narrow his ground, or, having marked out certain boundaries, did not strengthen his positions by more abundant and systematically arranged materials. These remarks and some preceding criticisms are proffered in this place, in order to exonerate the American editor from the charges of officiousness or vanity, in his endeavors to supply some of the omissions in the text by numerous notes, especially on Etiology and Semeiology, including Diagnosis and Prognosis; and, also, on Prophylaxis and Hygiene."—Pp. iii. iv.

We can do no more than exhibit the leading subjects investigated in this volume. After an introduction showing the need of the study of general pathology as the foundation of practical medicine, we have the following chapters: I. Etiology—on the causes of disease; II. Pathology (proper) or pathogeny; III. Proximate Elements of Disease; IV. Structural Diseases, or diseases of nutrition; V. Classification, Symptoms, and Distinction of Diseases; VI. Prognosis—foreknowledge of results of disease; VII. Prophylaxis and Hygienics.

In consideration of the advances made in recent years in the multitudinous subjects comprised in this branch of medicine, a special treatise must surely be quite acceptable; and this one, including the notes, more copious than usual, of the annotators, cannot fail to reward the reader both with pleasure and profit. Lea & Blanchard have given us the handsomer volume, as regards paper and typographic execution; but this, on the part of Barrington & Haswell, has been fully compensated by diminished price.

ART. XV.—*On the Nature and Treatment of Stomach and Renal Diseases; being an Inquiry into the connection of Diabetes, Calculus, and other Affections of the Kidney and Bladder, with Indigestion.* By WILLIAM PROUT, M. D., F. R. S., &c. From the Fourth Revised London Edition, with Plates. Philadelphia: Lea & Blanchard, 1844. 8vo., pp. 465.

THIS volume does not come before the reader a stranger; for, if he has not read a prior edition, its good character, at least, cannot have failed to reach his ears. We here find the practical application of numerous chemical facts to the elucidation of pathological phenomena, and consequently to the relief of many distressing morbid actions.

> "Since the third edition was published, Professor Liebig's Treatises on Vegetable and Animal Chemistry have made their appearance, and attracted no little notice. Some of the views advanced by this distinguished chemist in his last work, are the same I have long advocated. Others of his views are directly opposed to mine, and seem to me to be neither susceptible of proof, nor even probable. The *practical* nature of this volume, however, precludes all controversy, particularly on matters of no *practical* utility; and I allude to the subject chiefly for the opportunity of observing, that having in the following pages stated my own opinions without reference to Professor Liebig, I leave it to the public to decide whether he or I have most nearly approached the truth."—P. 7.

The general arrangement and division of the subject comprise three parts, which are thus explained:

> "PATHOLOGY, or the doctrine of Disease in general, is naturally comprised under three great heads or divisions, viz.—FUNCTIONAL DISEASES, or those derangements, arising from abnormal action of one or more organs of which animal bodies consist: ORGANIC DISEASES, or those diseases arising from actual lesions of one or more of the organs themselves; MECHANICAL DISEASES, or those diseases arising from mechanical causes; such as from the imperviousness or obliteration of organs by disease; or from the presence of foreign bodies, as, for instance, of calculi, &c., in the kidney or bladder. As, however, we rarely find diseases exclusively belonging to either of these three great divisions; and as the last two divisions, in particular, are almost always associated in those diseases of assimilation and of secretion which form the chief objects of this volume; we shall consider the practical part of our subject under two general heads only, viz.:
>
> "FUNCTIONAL DISEASES; *or those diseases arising from the deranged operations and less obvious lesions of the assimilating and secreting organs; and*
>
> "MECHANICAL DISEASES; *or those diseases arising from obvious lesions of organs; and from the presence of foreign bodies, as of calculi in the bladder, &c.*
>
> "These two great classes of diseases will form the subjects of the first two BOOKS or PARTS, into which the *practical* portion of our Treatise is divided.
> "A third BOOK or PART will comprise an
>
> "OUTLINE *of the* GENERAL PHYSIOLOGY *and* PATHOLOGY *of assimilation; and of the* SECRETION *of the* BILE *and of the* URINE.
>
> "In the former editions of our volume, the *third* BOOK or PART, was placed at the beginning, and constituted the INTRODUCTION. The reasons for inverting this arrangement have been briefly stated in the Preface of the present edition."—Pp. 25–26.

Book I. comprehends *Functional* diseases, arising from the deranged operations and less obvious lesions of the assimilating and secretive organs; and as this arrangement embraces some peculiar and valuable views, we deem it worth while to present Dr. Prout's preliminary remarks:

"The proximate alimentary principles by which the existence of animals is maintained, though much modified by the assimilating processes, are essentially the same as those principles of which animal bodies consist. This important fact being now generally admitted, we have here to show—that the processes by which alimentary matters are assimilated in animal bodies are constantly liable to be deranged, both in degree and in kind;—that such derangements of the assimilating processes are manifested by corresponding derangements in the various products secreted from animal bodies by the organs designed for such purposes, and particularly by the kidneys and liver; and, lastly, that the relations existing between the deranged products of secretion and the proximate principles by which animals are maintained, and of which their bodies consist, enable us, in many instances, to acquire a more correct knowledge of the organ deranged, as well as of the nature of its derangements, than can be obtained by any other means.

"The proximate alimentary and staminal principles of animals consist of four great classes, viz.: the Aqueous, the Saccharine, the Albuminous, and the Oleaginous classes; and in conformity with this constitution, we shall consider the Pathology of the assimilating processes under four similar heads. The first Book or Part of our Treatise, therefore, will comprise the following subjects:

"Chap. I. General observations on the Pathology of Aqueous assimilation and secretion.
Section a. Of the relation of Fluids to the assimilating processes in Health and in Disease.
b. Of the relation of Fluids to Nephritic operations in Health and in Disease.

"Chap. II. General observations on the Pathology of Saccharine assimilation and secretion.
Section a. Of Saccharine urine. *Diabetes.*
b. Of Oxalic acid; Oxalate of Lime.
c. Of Lactic acid.

"Chap. III. General observations on the Pathology of Albuminous assimilation and secretion.
Section a. Of an Excess and Deficiency of Urea.
b. Of Albuminous urine.
c. Of Lithic acid.
d. Of Cystic Oxide.

"Chap. IV. General observations on the Pathology of Oleaginous assimilation and secretion.
Section a. Of an Excess and Deficiency of fat.
b. Of Cholesterine and its deposites, &c.

"The important class of diseases, arising from the Mineral matters incidental to the proximate animal principles, will be separately considered under the head of

"Chap. V. General observations on the Pathology of the Incidental Mineral matters entering into the composition of organized bodies.

> "Since, from the nature of the preceding arrangement of our subjects, the *abnormal condition of the secreted products* is supposed to constitute the prominent feature of the derangement, or, in other words, the DISEASE; in speaking of the individual derangements or diseases, we shall first describe the abnormal state of the secretion constituting the Disease; and afterwards point out the general constitutional symptoms or derangements by which the abnormal state of the secretion is usually accompanied. These points being considered, the Diagnosis, Prognosis, and Treatment of the peculiar derangement, will follow in the usual manner."

Book II. treats of *Mechanical Diseases*, including those arising from obvious lesions of the kidney and bladder, and particularly from the presence of concretions in these organs.

Book III. which, in the previous editions, constituted the Introduction, it is seen assumes here an entirely new place. This, which comprises an outline of the general physiology and pathology of assimilation, and of the secretion of the bile and the urine, "*contains a brief sketch of the general physiological and pathological views on which the preceding practical treatise is founded.*" Here, then, in the very face of his own assertion, we find a man, remarkable for his powers of close reasoning, building up an argument somewhat after the manner of an inverted pyramid. He admits, at least, that after raising what is truly a noble superstructure, he will lastly make a good foundation. But as even Homer, it is said, sometimes nods, we are quite willing to forgive the same fault in the author here before us, more especially as the good materials predominate over the useless beyond all measure.

We are now prepared to enter upon an analysis of this work, which, as it is not an elementary text-book, deserves an extended notice; but we are admonished to desist for two reasons—first, the crowd of volumes on our table remaining unnoticed, and secondly, the space, though far from being *comparatively* limited, allowed to a $3 Journal.

ART. XVI.—*A Treatise on Dislocations and Fractures of the Joints.* By Sir ASTLEY COOPER, Bart., F.R.S., Sergeant-Surgeon to the King, etc. A new edition, much enlarged, edited by Bransby B. Cooper, F.R.S., Surgeon to Guy's Hospital. With additional Observations, and a Memoir of the Author. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 499.

So well and favorably known is this work, both in Europe and in America, that we need refer to it only in the most general terms: and it requires not the gift of prophecy to add that, as long as civilisation continues, this treatise, in view of the precious precepts and experience embodied in its pages, will continue to be consulted.

This work, in its original form, appeared in 1822; and in its subsequent revisions for successive editions, new observations, both from his own practice and from that of his numerous friends and correspondents, were constantly added. At his death, he left in the hands of his nephew, Mr. Bransby B. Cooper, large additions, so that the present edition embodies the results of the large experience and observation of his whole life. It is also enriched with observations from notes furnished by Professor John C. Warren, of Boston, upon dislocations of the hip, upon fractures of the cervix femoris, and the comparative infrequency of the former in females. As this unfrequency of dislocation of the os femoris in females, is a new fact of great interest, we will present Dr. Warren's account at length.

"The comparative unfrequency of dislocation of the os femoris in the female, has not, that I know of, been distinctly pointed out by any author. Having had occasion to advert to this fact eight years since, I then examined the cases of dislocation, which had come under my notice, and found that, in the experience of more than thirty years, not a single case of dislocation of the os femoris in the adult female had ever occurred to me, and only one case in a female under age, namely, about nine years old. Since then I have seen not less than fifteen cases of this dislocation, all of which occurred in males.

"Curious to ascertain how far the experience of others accorded with mine, I took the opportunity of making inquiry of different surgeons, when travelling in Europe, in the years 1837 and 1838. The gentlemen, of whom I inquired, were generally surprised at the question, as they had never adverted to the extreme unfrequency of this dislocation in the female.

"For some time I could not ascertain a single well authenticated instance of this accident. The first which occurred was mentioned to me by Mr. Clift, Conservator of the Museum of the Royal College of Surgeons, London. The case given me by him was that of a female, who was tossed by a bull in Smithfield market; she came down upon her feet, and the two legs being violently separated from each other, a double dislocation into the foramina ovalia was the consequence. The bones were never reduced. After her death the pelvis was obtained, and ultimately deposited in the Museum of Anatomy at St. Petersburgh. Subsequently I heard of a few instances, and particularly from my friend Dr. Stevens, of New York, who stated, that he had seen two or three cases. Sir Astley Cooper mentions above fifty cases of dislocation in the male, but one only in an adult female, and one in a female under age.

"As most of the surgeons, of whom I have inquired in Europe and in this country, have never seen the accident, it must be exceedingly rare. Fracture of the cervix of the os femoris, on the other hand, is one of the most frequent of all fractures in females and comparatively rare in males. This remarkable difference in the two sexes naturally leads to the inquiry, whether the accident peculiar to each can be explained by any variation in the anatomical structure.

"It will not be proper in this place to enter into the consideration of the causes which render the female frame less liable to the preceding, and to many other dislocations, than that of the male. I must be contented with mentioning an anatomical fact, and one which appears to me to be calculated to throw light on this subject. The observation of nine instances of measurement of the circumference of the neck of the thigh bone in the male and female, has presented the following results:

1. Male,	4 inches.
2. do.	3.9 do.
3. do. (African)	3.6 do.
4. do.	3.8 do.
5. do.	3.8 do.
6. do.	4.8 do.

Average in the male 3.9 inches.

7. Female,	3.3 inches.
8. do.	3.3 do.
9. do.	3.3 do.

Average in the female 3.3 inches.

> "From these observations it would appear, that the cervix of the os femoris in the female is less in circumference, by at least half an inch, than the same part in the male. This being the fact, a force applied to the os femoris would be much more likely to produce fracture of the cervix in the female than in the male, and the comparative frequency of dislocation in the female would be necessarily diminished.
>
> "Another fact, which explains the more frequent occurrence of fracture of the cervix in the female, is, that the greater breadth of the pelvis in them produces a corresponding projection of the trochanter, which of course renders it more obnoxious to external violence."—Pp. 97-8.

It was unfortunate for the reputation of Sir Astley Cooper, that his papers fell into the hands of his nephew, Mr. Bransby B. Cooper. Besides other faults, he has taken the liberty, wholly unjustifiable on the part of an editor, of even condensing, in several instances, the original text. But it is in the biography of Sir Astley, that his course deserves the most severe condemnation. It is said truly that "Mr. B. Cooper has thus done much to debase the reputation and fame of his uncle, and to degrade the profession, of which he was so distinguished a member."

ART. XVII.—*The Principles and Practice of Medicine.* By JOHN ELLIOTSON, M. D., Cantab., F. R. S., President of the Royal Medical and Chirurgical Society; President of the Phrenological Society; Late Professor of the Principles and Practice of Medicine, and of Clinical Medicine, and Dean of the Faculty of Medicine in University College, London; Late Senior Physician to the University College-Hospital; Fellow of the Royal College of Physicians; Formerly Physician to St. Thomas's Hospital; and President of the Royal Medical Society of Edinburgh. Edited by Nathaniel Rogers, M. D., etc., and Alexander Cooper Lee. First American, from the second London Edition, greatly enlarged and improved. With Notes and Additions, by THOMAS STEWARDSON, M. D., etc. Philadelphia: Carey & Hart. 1844. Large 8vo., pp. 1046.

SEEING the ponderosity of this tome, the reader need not be surprised at the number of builders that have been engaged in its construction. It appears that the basis of this work consists of Dr. Elliotson's lectures, published some dozen years ago, in the London Medical Gazette. The reason why Dr. Rogers and Mr. Lee, instead of Dr. Elliotson himself, should have undertaken the task of remodelling these lectures, with the view to their resuscitation under the new form of a regular book, is unknown to us; but we learn from the Preface that "the subjects have been grouped together, in conformity with Dr. Elliotson's views; and divided into parts, books, chapters, and sections." It is further stated that when this work first appeared, it had to encounter some deeply rooted prejudices among certain men who dissented strongly from Dr. E.'s views on particular subjects. But despite these obstacles (Quere—Mesmerism?) the first impression was rapidly exhausted. It became "the favorite class-book in the majority of our Medical schools." All acknowledged its sterling practical worth; and in Germany, a translation of it appeared. The edifice of these builders finally received, on this side of the Atlantic, its finishing touches by the competent hand of Dr. Stewardson, who has given a more extended space to the consideration of Remittent and Yellow Fever, and to Cholera Infantum, with other less important additions on various subjects.

Our author first treats of general pathology; such as, the nature of disease, general nosology, etiology, semeiology, the general treatment of diseases, and methodical nosology. Part I. has reference to general diseases; as, for instance, inflammation, hemorrhage, dropsy, deficient secretions, changes of structure, transformations of structure, and new formations. Part II. is devoted to "universal" diseases; such as, anæmia, chlorosis, scurvy, and the different forms of fever. Part III. consists of the consideration of local diseases, which are arranged as follows: diseases of the skin, of the nervous system, of the respiratory organs, of the heart, of the chylopoetic viscera, of the urinary organs, and the fibrous tissues.

Without attempting an analysis of this matter-of-fact volume, we will add in conclusion, that, regarding, as we do, Dr. Elliotson to be a bold and original thinker, endowed with a mind richly stored with various and classical knowledge, an experienced practitioner, a judicious teacher, and a forcible and an eloquent writer, we take pleasure in commending this treatise to the kind attention of our readers.

Art. XVIII.—*Lectures on the Principles and Practice of Physic;* delivered at King's College, London, by Thomas Watson, M.D., etc. Philadelphia: Lea & Blanchard. 1844. 8vo., pp. 914.

At first view we were much prejudiced against this volume, judging it solely by its typographical aspect. Our sympathies were at once excited for all readers with weak eyes. Indeed, we fancied that the publishers had formed some unholy league with the tribes of oculists and spectacle-makers. But when we came to view it *intrinsically*, our only regret was that so good a book should be sent forth to the world without any of the advantages conferred by external dress. It is, in fact, a marked illustration of "beauty unadorned."

These lectures, which were first delivered during the Medical Session of 1836-7, were subsequently published in the London Medical Gazette, and have since appeared, in this country, in the columns of the Medical News. A more admirable summary of general and special pathology, and of the application of therapeutics to diseases, we are free to say, has not appeared for very many years; and the author seems to have fully realized the duties of a lecturer on medicine, aptly expressed by Lord Bacon in the following metaphor, which is thus paraphrased by Dr. Watson:

> "The lecturer must not be the ant, collecting all things indiscriminately from all quarters, and using them as provender for his discourses;
>
> "Nor the spider, seeking no materials abroad, but spinning his web of speculative doctrines from within himself;
>
> "But rather the bee, extracting crude honey from various flowers, storing it up in the recesses of his brain, and subjecting it to the operation of his internal faculties, until it is fit to be produced, digested, and ready for use."

This volume consists of ninety lectures. The first sixteen are devoted mainly to general pathology, embracing etiology and general therapeutics. The remaining seventy-four lectures give an excellent exposition of special pathology, including the etiology, semeiology, diagnosis, prognosis, pathology, and treatment of individual diseases. Thus he proceeds through the whole classification of human ills, *a capite ad calcem*, showing, at every step, an extensive knowledge of his subject, with the ability of communicating his precise ideas, in a style remarkable for its clearness and simplicity.

Art. XIX.—*Medical Clinic: Diseases of the Chest.* By G. Andral, Professor to the Faculty of Medicine of Paris, etc. Condensed and Translated, with Observations, by D. Spillan, M. D., etc. Philadelphia: Edward Barrington & George D. Haswell. 1843. 8vo., pp. 408.

This is another reprint in Bell's "Select Medical Library;" and, as we remarked, in a previous Number, relative to some other work contained in this library, this production, too, speaks in the plainest language in favor of the discriminating judgment of the editor, exercised in the selection of his materials. In this volume, which treats of the diseases of the heart and the lungs, is accumulated a vast mass of the most valuable clinical observations, in which the physical means of exploring disease have been very fully adopted. Such a work ought to constitute a study for every practical physician.

Art. XX.—*Practical Medicine: Illustrated by Cases of the most important Diseases.* Edited by John M. Galt, M. D. Philadelphia: Edward Barrington and Geo. D. Haswell. 1843. 8vo., pp. 328.

Here we find three Doctors Galt, viz., John M., the editor of this work, Alexander D., the father, and also the collector of the cases of which this volume is composed, and John M. Galt, the grandfather; and these three have succeeded one another as "well-known and highly esteemed practitioners," in the same locality of Williamsburg, Virginia. It is true, that Dr. Galt *tertius* does not include himself in this good opinion of his neighbors; but it may be fairly inferred, in consideration of such worthy sires, and of the fact that he has the laudable desire of perpetuating their names, that he is "a chip of the old block."

The collection of cases here presented, are selected from the papers of the editor's father, who, after studying several years in the office of *his* father, that is, Galt *primus*, proceeded to London, where he was a pupil of Sir A. Cooper. On his return to Williamsburg, he soon became distinguished as a practitioner; and for many years, he was surgeon to the State Lunatic Hospital.

These cases were drawn up amid the hurry and distractions of a country practice. They consist chiefly of Intermittent and Remittent Fevers, Inflammations of the Pleura, Lungs, and Bronchia, Colic, Dysentery, and Rheumatism; and as they are doubtless descriptive of the endemic influence of that district of our country, it is in this that their chief value consists—a value which surely authorized their publication.

Art. XXI.—*Lecture Introductory to a Course on Chemistry in the University of Pennsylvania, delivered November 7th*, 1843. By Robert Hare.

Introductory Lecture to the Course of General, Descriptive, and Surgical Anatomy, in Jefferson Medical College, delivered November 8th, 1843. By Joseph Pancoast, M. D.

A Lecture Introductory to the Course on Obstetrics in Geneva Medical College, session of 1843–4. By C. B. Coventry, M. D.

These addresses are all valuable, and each is appropriate to its particular occasion.

Dr. Coventry's address is devoted to the general subject of quackery; and in the opportunity thus presented of handling the subject of Homœopathy, he fails not to represent it in its true aspect.

It is Dr. Pancoast's particular object, in this introductory lecture, to impress upon the mind of the student the very important fact, that the value of a course of anatomical instruction depends upon the extent of its application to the practical pursuits of our profession. The advance of science has, in recent years, taught the high importance of a knowledge of the relation of parts, as regards their use in medicine and surgery, thus precluding a divorce between these kindred pursuits.

> "But it is, gentlemen," he says, "in the productions of modern times, and of practical men, that you are to seek this important instruction. Look at these productions as you find them in our libraries or upon our tables. They are but little more exact in the delineation of parts, than those of the older masters, but yet how much more useful have they been to the world? These have been the works of such men as Hunter, and Scarpa, and Cooper, and Velpeau,—men engaged daily, not in the business of dissection as an abstract pursuit, as pointless as though they were studying the stars, but whose sole aim has been to study profoundly the structure of the human form, for the purpose of applying that knowledge to the elucidation of the nature of disease and the demonstration of the readiest and most certain means of cure.
>
> "In fact, though it may sound somewhat paradoxical to say it, I could, did time permit me here, no doubt make it clear to you, that while there never has been and never can be a surgeon of any enduring reputation, who was not a thorough anatomist, it has on the other hand been the surgeons themselves who have taught the anatomists the proper application of their own science. On the past history of the science would I found my arguments.
>
> "How imperfect was our knowledge of the structure and direction of the urethral passage, till Amussat and Civiale had made it, in reference to operations, a particular subject of study? What was known of the crural and inguinal canals till the time of Gimbernat, Scarpa, and Cooper? The anatomy of the articulations!—has not even it, so far as practical usefulness is concerned, been almost wholly made known by the accurate investigations of Lisfranc and Malgaigne? Thousands of times have the parts in the orbit of the eye been demonstrated, yet some important fasciæ have lately been discovered in that region, which had escaped observation, till they were sedulously examined in reference to the operation for strabismus. Compare all the classical anatomical descriptions of the eyeball, with the careful conscientious study of it made by Petit, in a surgical point of view, and see how vast is the difference in point of interest and utility."

In Dr. Hare's address, we are made acquainted with the recent extraordinary advances of Chemistry. As regards Liebig's physiological speculations, he makes the following judicious remarks:

> "In these I conceive he has in various instances been bold, hasty, inconsiderate, and inaccurate, but still has advanced many ingenious ideas which are likely to be highly serviceable to physiological chemistry. He has quite as much merit in holding up ideas, before existing. in a new and popular form, as in suggesting such as are altogether original. Yet I would liken him to a military leader, who, after marching through a country, with drums beating and colors flying, should have his trumpets loudly sounded, as if a complete conquest had been effected, while leaving behind him many fortresses, of which the knowledge had prevented more cautious and considerate leaders from having previously undertaken the same expedition. Nevertheless, by these means the philosopher of Giessen has excited a degree of attention, in the great mass of physicians and agriculturists, which had never been gained, had he neither deluded himself nor the readers of his essays with the prospect of an elucidation of the mysteries of animal and vegetable physiology, which it is beyond the present state of chemistry to afford. Moreover, the popularity which he has thus gained, may lead others to follow in the same path, who may rectify his errors and remedy some of his omissions without impairing what is really true in his doctrines.
>
> "There can be no better exemplification of the errors to which Liebig is addicted, than his adoption of the following maxim :—'*There are many ways to the highest pinnacle of a mountain, but those only can hope to reach it who keep the summit constantly in view.*' It must be evident to every person of any experience, in ascending mountains, that although it may be necessary to keep the *bearing* of the summit in *mind*, our eyes must be upon the path ; and that, in most cases, the safest and easiest mode of access causes the summit to be concealed for a time. A person who should implicitly follow Liebig's advice, would probably fall over some precipice, or tumble into some fissure which might escape notice while keeping the summit of the mountain *constantly* in view. Is not the fallacious rule of action, above quoted, a good figurative illustration of a theorist, who, keeping his mind too much upon some hypothetical acme, overlooks insurmountable objections which a close attention to facts would make evident? Has not Liebig exemplified his own course?"

Dr. Hare refers in appropriate language to Liebig's "contemptuous allusion to the vital principle ;" but he gives, at the same time, a due meed of praise to the labors of this extraordinary man.

> "Among the greatest wonders," says Professor Hare, "of organic chemistry, is the acquisition of power, by elements otherwise inert, from mere grouping. The hempen cable, of which a given section has more strength than an equal weight of iron forming a chain, consists of nothing but water and carbon, into which it is easily resolved by the application of heat. By fire we may fuse or oxidise the iron, and thus equally deprive its particles of strength ; but, on collecting the resulting fragments, metallurgic skill can elaborate another chain, the cohesive power of the metallic particles having been subdued, not destroyed ; but no human skill, unaided by the powers of vegetable life, can regenerate another cable from water and carbon.
>
> "Subjected to ultimate analysis, prussic acid, which is so fatal to animals, consists only of three of the ingredients of their flesh or blood. It is constituted of nitrogen, one of the elements of the air which animals breathe, of hydrogen, one of the elements of the water which they drink, and of charcoal, which, per se, is inert."

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

The three following extracts are from Mr. James Paget's Report on the progress of Anatomy and Physiology, in the year 1842–3, as published in the British and Foreign Medical Review.

1. *Salivary Secretion.*—Dr. Budge has found that after extirpation of the parotid, submaxillary, and sublingual glands in a dog and a rabbit, the secretion of saliva continued; its characters remained the same, and no function was disturbed. [The experiments add probability to the opinion that the labial, buccal, palatine, and other glands which the experimenter left behind, are salivary glands.]

A case of a kind of metastasis of the salivary secretion is related by Dr. Roelants, and is interesting in its relation to the general physiology of secretion. A man, eighty-two years old, had an attack of bronchitis, with fever, followed by suppuration around and probably in one of the parotid glands. The abscess was opened, and two months after a large mass of chalk-like substance was discharged. The abscess soon healed, and he recovered his health; but now, whenever he masticates, saliva flows freely from the skin of the cheek and temple of the side formerly diseased. As soon as he begins to eat, the skin becomes very full of blood, and hot; and gradually drop after drop of clear fluid, with all the characters of saliva, collects on its surface, and runs down the cheek and neck, and continues to do so just as long as he continues eating. His health is not disturbed, and the saliva-secreting surface of the skin is natural in its texture.

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2. *Process of Ossification.*—In the same work is a description of the process of ossification, which is, in several points, new and interesting (p. 117). In the vicinity of the point of ossification the nucleated cartilage-cells (which usually are scattered irregularly) arrange themselves in linear series, which run down, as it were, to the ossifying surface. At first the series are small and not regular, but nearer to the ossifying part they form rows of twenty or thirty. The cells in these rows are closely compressed, and their nuclei seem flattened. The lowest rows dip into and rest in deep narrow cups of bone, formed by the osseous transformation of the intercellular substance between the rows, and as ossification advances these cups are converted into closed areolæ or *cancelli*, with extremely thin lamelliform walls. Immediately upon the ossifying surface, nuclei, which before were closely compacted, separate considerably from one another by the increase of material within the cells: they also often enlarge and become more transparent. Deeper in the new bone the lamellæ which inclose the cancelli, and which were formed by the ossification of the intercellular substance, are found thicker and more like perfect bone: they include in their substance elongated oval spaces, which, except that they are roughly granular, exactly resemble the ordinary *bone-corpuscles*, and which are evidently the nuclei of the cells of the temporary cartilages. The curvilinear outline of the now ossified cells of these nuclei can often be discerned. Within the cancelli only a few cells can be detected, these cavities (of the cancelli) being chiefly occupied by a quantity of new substance, consisting of granules, and resembling a formative blastema or basis. It thus appears that after the ossification of the intercellular substance (by which are formed the lamellæ which are the walls of the cancelli), the rows of cartilage all arrange themselves on the

inner surface of these newly-formed cancelli, and are ossified, with the exception of their nuclei, which remain granular, and subsequently form the corpuscles of bone; and that a new substance or blastema appears within the cancelli, from which, probably, vessels are developed, and the further steps in the growth of the bone proceed.

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3. *Absorption.*—M. Lacauchie describes the intestinal villi as possessing during life a power of alternately retracting and elongating themselves by a kind of vermicular motion, which he believes to be influential in the propulsion of chyle. And his account, so far as these movements are concerned, is confirmed by MM. Gruby and Delafond, who have observed them in the recently-slain horse, dog, and rabbit. They add that besides the movements of retraction and elongation, the villi are capable of moving laterally in all directions, and that their epithelium-cells bear ciliæ.

Some experiments by Dr. Behr may serve, perhaps, to explain somewhat of that which was supposed to depend on an elective power of absorption possessed by the lymphatics, and certainly have added much to the probability that the force by which the lymph is carried along the lymphatics is that of the contraction of their walls. It has been long known that the lymphatics will not convey certain substances, especially narcotic poisons, while they do carry others. If, for example, the animal's abdominal aorta be tied so as to stop the circulation in its posterior extremities, and ferrocyanate of potass be inserted in a wound in one of them, it is absorbed and carried into the blood by the lymphatics, and is found again in the urine. But if, under the same circumstances, a narcotic poison is put in the wound, the animal is not killed by it; and it was supposed that the lymphatics in this exercised some kind of choice. The results of Dr. Behr's experiments are these: 1. Acetate of strychnine was introduced into a wound in an animal's leg, while the circulation was uninterrupted, and death, with convulsions, &c., occurred in five minutes. 2. Ferrocyanate of potass was introduced into a similar wound, and ten minutes after acetate of strychnine into another wound: in four minutes the animal died of the poison, and the ferrocyanate was found in the urine. 3. The same substances were introduced together into a wound in the leg: the animal died poisoned, and even sooner than before, and the salt was found in the urine. 4. The abdominal aorta was tied below the renal arteries, and when the hind limbs were paralysed the acetate of strychnine was put into a wound in one leg and the ferrocyanate of potass into a wound in the other. After two hours and a half there were no signs of poisoning, but on killing the animal the salt was found in the urine. 5. The abdominal aorta was tied as in No. 4, and the acetate of strychnine and ferrocyanate of potass were introduced into the same wound. The animal showed no signs of poisoning, and the salt could not be found in the urine. This last experiment was several times repeated, and, with unimportant variations, with a constantly similar result. It would follow, therefore, that when the circulation in the blood-vessels is stopped, the lymphatics can absorb and convey to the blood ferrocyanate of potass, but not acetate of strychnine; and that when the two substances are applied to them together it can absorb or carry neither. Hence it is supposed that the force by which the lymphatics convey fluids is that of the contraction of their walls, and that they are paralysed by the direct contact of narcotics, as other involuntary muscles are.

Mr. George Robinson has related some experiments in evidence that the absorption of blood-vessels depends on a force generated by and proportioned to the velocity of the blood which is moving in them. He compares it to that force with which water or any other fluid traversing a main tube will draw fluid through a side branch, even against the weight of a considerable column. He has often repeated this well-known experiment, and has added proof that the same force will act in the same way through one or more membranes. Having filled a wine-glass with colored fluid, and having connected its contents (by means of a bent tube twelve inches long and one-fourteenth of an inch in diameter, and having one of its ends covered with membrane), with the interior of a pipe half an inch in diameter, he found that within five minutes after the stream had begun to flow rapidly through the last-mentioned pipe, the whole of the air present in the smaller tube was absorbed, and its place supplied by the colored fluid, which had risen from the glass. In another experiment the fluid from the glass was raised through a shorter tube to the membrane, and was made to flow in a slow but constant stream towards the fluid, passing through the larger pipe.

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

4. *On the use of Ammonia in Tic Doloureux of the Face and Head.*—M. *Ducros* recently communicated to the Academy the details of some well-marked cases of this distressing disease, which were rapidly cured by the use of strong ammonia, applied to the palate, gums, &c., with a camel-hair brush, so as to occasion a profuse discharge of tears and saliva. He requested the physicians of several of the metropolitan hospitals to repeat his experiments on a large scale; and the results of their trials have been, he says, most satisfactory.

(The strong Aqua or Liquor Ammoniæ, taken internally, will be found to be a most valuable remedy in many cases of neuralgic suffering about the face and head, odontalgia, severe nervous headache, &c. The best mode of administering it is to mix from 20 to 40 drops in a cupful of very thick gruel, and to take this at bed-time, or whenever the paroxysm of pain is present. The ammonia must be well blended with the gruel, else it will irritate very painfully the inside of the mouth and throat. It should produce a profuse salivation and lachrymation. In very severe or obstinate cases, it may be applied outwardly at the same time.)—*Medico-Chirurgical Review, for January* 1844.

5. *French Tisanes.*—Doctor Higgins, an English physician, resident in Paris, has published in the *Gazette Médicale,* a letter on the use and abuse of Tisanes in France.

6. *Remarks on Indian Hemp.*—The *apocynum cannabinum* is sold in London under the name of "Indian hemp." It is a native of Canada and Virginia, and has no resemblance to the true hemp, except in possessing a tough, fibrous bark, which is applicable to the same purposes in the arts. In the U. S. Pharmacopœia it is termed "Indian hemp." The officinal part is the root, which is powerfully emetic and cathartic. But the part which I have seen supplied as Indian hemp consists of the leaves and the follicles filled with numerous silky seeds. As the follicles are two or three inches long, and the silky seeds are abundant, they can hardly have escaped the notice of those who may have inadvertently used this article under the idea that it was the hemp from India. The true Indian hemp, or "gunjat," is our common hemp; and consists of the flowering branches, two or three feet long, nearly destitute of leaves, and having the flowers and fruit (hemp-seed) agglutinated together by the resinous secretion. As the most powerful antispasmodic properties have been attributed to this plant, it is important that no false conclusions should be drawn in consequence of the employment of a wrong article. I am not aware that any real Indian hemp is at present in this country, except the supply recently brought by Dr. O'Shaughnessy, and left with Mr. Squire, of Oxford-street. We have at present little experience of the medicinal properties of English hemp. A hotter climate, a more intense light, and a different soil, may give to it properties which are scarcely developed in this country, but as the resinous secretion is not wanting here, it appears deserving of a careful trial.—*Braithwaite's Retrospect,* from *Med. Gaz., May* 5, 1843, *p.* 209.

7. *Veratria in Facial Neuralgia.*—An ointment composed of veratria, one part, to eighty parts of lard, has been found very useful as an external application in cases of facial neuralgia. But the preparation is much more efficacious if made with rancid instead of fresh lard, which is probably owing to a salification and greater solubility effected in the veratria by the agency of the free acid in the fat.—*Ibid.*, from *Revue Scientifique.*

8. On *Discharges from the Urethra; and on the Influence of Creosote in Mucous and Sanguineous Discharges.* By R. A. ALNATT, M.,D., etc.—Mr. James Douglas, in a late number of the Medical Gazette (Sept. 29), has detailed a case of what he conceives to be spermatorrhœa, arising from masturbation, and has suggested a remedy which appears to have been as efficacious as Lalleman's plan of cauterizing the urethra; and it certainly possesses the advantage of being much less hazardous to the patient. There is one point, however, in the communication, upon which I feel a little doubtful, and that is respecting the loss of *semen*, which is alleged to have occurred "without ejaculation, and with scarcely any erection." A case closely approximating to that of Mr. Douglas fell under my notice a short time ago, and first awakened the suspicion which subsequent facts have tended in some measure to confirm. The case is this:

"A man, aged 33, unmarried, who had from puberty been addicted to a solitary vice, contracted at a large boarding-school, came to me in great alarm, stating that when at stool, frequently in making water, and sometimes too in sleep, in the absence of libidinous emotions, he lost a considerable quantity of semen. Upon inquiring into the case, I was led to question the nature of the discharge; and putting him in the way of instituting for himself a careful and minute observation, I subsequently learnt that it consisted of limpid colorless mucus, without the sensible characteristics of pure seminal fluid. The testes in this instance were healthy, not particularly pendulous, and certainly not so flaccid as they should have been had a perpetual drain of their secretion been established. This patient was placed under a course of chalybeate tonics: and without the aid of cauterization, or other local applications, he gradually recovered.

"From the anatomical structure of the parts, we can fully comprehend how by long-continued preternatural excitation, they may ultimately lose their tone, fall into a state of debility, and the secretions from the patulous orifices of the weakened vessels may be augmented. The prostate secretes a ropy mucus: the glands of Cowper, seated anteriorly to the prostate, also secrete mucus: mucus is secreted in abundance, in certain morbid affections, by the internal coats of the bladder; and the canal of the urethra is bedewed with mucus from the glands and lacunæ scattered throughout its course. A mechanical obstruction is, moreover, I believe, offered to the flow of semen, during the passive state of the organ, by the *sinus Pocularis*, whose mouth being directed forward, forms a valve, which is closed by the collapsed urethra: at all events it is hermetically sealed, during micturition, by the force of the stream, so that no semen can escape, 'during the time of making water.'

"Under these circumstances I rather incline to the belief that, in the majority of cases cited by recent authors, the fluid passed is not seminal but mucous; but I shall be glad to learn if there be any *test* to facilitate the discrimination.

"I have published, from time to time, in the medical periodicals, cases which presented themselves to my notice, in which the direct application of creosote to morbidly secreting mucous tissues was followed by speedy amelioration of previously existing symptoms. The first case to which I directed the attention of the profession was that of gonorrhœa (*Med. Gaz.*, Feb. 28, 1840), in which the discharge was subdued by this remedy in the course of a few days. The next was a case of inveterate fluor albus, the details of which appeared very lately. I have just now met incidentally with another case of gonorrhœa, in which the discharge was copious and thick, of several months' duration, and not at all inclined to degenerate into the thin gleety secretion of chronic clap. In this case (for I need not enter into detail) the discharge was arrested at once by the creosote injection, and has not since returned. I may mention, however, that in consequence of the sudden stoppage of the flux, an eruption appeared on various parts of the body, resembling syphilitic psoriasis. It speedily yielded to gentle laxatives, combined with tonics.

"The next case is that of purulent otorrhœa: William Payne, Charles street, Westminster, one of my morning patients, came to me about a fortnight ago, on account of a discharge from the left ear. The external meatus was filled with thick pus, and the lobe of the ear, and all the parts adjacent, to which the acrimonious matter gained access, were inflamed and excoriated. I ordered an injection, composed of a drachm of creosote, the same quantity of liquor potassæ, and six ounces of water, to be frequently thrown into the tube. The ear and excoriated surfaces were defended by a simple unguent. At the present time the discharge has completely ceased, the natural functions of the organ have been restored, and the sores are healed."—*Bell's Bulletin, Dec.*, 1843.

9. *New preparation of Quinine.*—Dr. Kingdon, of Exeter, having felt the utility in practice of quinine as a tonic, in cases in which a stimulus to the absorbents also was indicated, has recently succeeded in combining the qualities of these two classes of medicines in an iodide and biniodide of quinia. His iodide of quinine is formed by dissolving equal weights of the disulphate of quinine and iodide of potassium in boiling distilled water, and allowing the mixture to cool, when beautiful fasciculi of needle-shaped crystals are deposited, insoluble in cold water, but soluble in alcohol. The biniodide of quinine is prepared by mixing twice the weight of iodide of potassium with the disulphate of quinine in boiling distilled water, evaporating to one-third in a sand-bath, and allowing the residue to cool, when a resinous substance is deposited of a light straw-color, which, by exposure to the air, becomes darker and of a greenish hue, not crystallizable, sparingly soluble in cold water, soluble in boiling water, readily soluble in alcohol, and then not precipitated when mixed with water. This preparation he has given in several cases of scrofulous enlargement of the glands, with very great benefit. In the case of a child, between three and four years of age, when the glands of the neck were in a state of suppuration, half a grain twice a day was given, and at the end of six weeks the swellings were entirely removed, and the general health much improved.—*Medical Times, July* 29, 1843, p. 288.

10. *Vomiting a Cure for Phthisis.*—It is stated that 176 patients under consumption, 47 in the incipient, and 129 in the advanced stage, admitted during a period of four years into the military hospital at Capua, were ultimately discharged perfectly cured, their treatment having consisted in the administration of a table-spoonful night and morning, of the following mixture:—Tartarized antimony, three grains; syrup of cloves, an ounce; decoction of marsh mallows, six ounces; mix. The dose was to be repeated until vomiting ensued.—*Braithwaite's Retrospect*, from *Annali Univ. di Medicine.—Lancet, July* 22.

11. *Mercurial Cigars.*—M. Paul Barnard lately proposed to the Acad. de la Medicine, the use of cigars impregnated with a weak solution of bichloride of mercury for persons affected with syphilitic affections of the throat and palate, as a mode of conveying mercurial fumigation. It has been proposed first to deprive the tobacco of its narcotine by frequent washings.—*Lancet, May* 22.

12. *Advantage of Medicines in a Liquid Form.*—It has been found that fifteen grains of sulphate of quinine, given in infusion of senna, is more efficacious as a tonic, notwithstanding the purgative quality of the mixture, than twenty-four grains of sulphate of quinine administered in the form of pills. Panizza supposes the causes of this to be that the senna, by promoting the peristaltic action of the alimentary tube, and augmenting the secretion of the bowels, excites the production of a fluid adapted perfectly to dissolve the quinine; and that the quinine, in passing through the intestine in a state of solution, is placed in contact with a much larger extent of surface, and disposed for absorption much more rapidly than if taken in a solid form.—*Panizza, in L'Experience.—Lancet, Nov.* 4.

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

13. *On Punctures of the Eye.*—By M. Guepin.—M. D., an architect, brought his son to M. Guépin, in 1843. A minute fragment of iron had entered his eye, reaching from the cornea to the capsule of the crystalline lens, and almost touching the iris. It was impossible to grasp the fragment, and an incision would have been difficult, as it lay upon the upper edge of the pupil. M. Guépin accordingly devised the following remedy. He prescribed a collyrium made with distilled water and acetic acid, being persuaded that if the fragment became oxidized at its corneal extremity, the oxidation would spread over its whole surface, and that the dissolution and absorption of the fragment would follow. The event justified his supposition. At the end of three weeks, the cure was complete, with the exception of an almost imperceptible white point upon the capsule, and a very slight cicatrix on the cornea. In another case, the same collyrium was again used with success to carry off the oxide of iron left in the substance of the cornea by a fragment of iron which had remained in it a considerable time.—*Medical Gazette*, from the *Annales d'Oculistique.*

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14. *Cases of Carcinoma of the Thyroid Gland.* By Cæsar Hawkins, Esq., Surgeon to St. George's Hospital.—The author began by adverting to the common opinion that malignant tumor rarely commences in the thyroid gland, and stated his belief that this body is more frequently the seat of primary scirrhus than is usually supposed. In confirmation of this view, he related, in the first place, a case which was under his care in 1837, where the tumor appeared to be of that nature, but in which he had not the opportunity of making a *post-mortem* examination to verify his diagnosis; and he then alluded to four other cases which had come under his observation. He remarked that the age of the patient, when the disease commenced, was from 45 to 65; at which period of life ordinary bronchocele very seldom takes place, and the tumors most likely to present themselves, are the serous tumors, developed in or near the thyroid gland, or the cartilaginous or osseous degenerations, lately described by the term *enchondroma.* Having pointed out the diagnostic marks by which these tumors may be distinguished, and dwelt on the chief characters of carcinoma affecting the gland, he proceeded to relate the particulars of a case recently under his care in St. George's Hospital; his description being illustrated by colored drawings, made during the life of the patient, and from the morbid parts found in dissection, and by preparations.

Without following the author through the details of the case, it may be mentioned that the tumor which extended on both sides from the thyroid gland, was found to have attained a large size, and the parts adjacent to the larynx and œsophagus were involved in its texture, which presented the usual appearance of true scirrhus. A large ulcer opened on the surface of the œsophagus where the tumor adhered to that tube; and another ulcerated opening led into the trachea, immediately below the cricoid cartilage. The right internal jugular vein was closely adherent to the tumor, its coats having been absorbed at one part, and a small portion of the morbid structure having projected into its interior. The pneumogastric nerve was much flattened, and its fibrils were separated, so as to present a plexiform appearance; the carotid artery was deeply imbedded in the tumor. In describing the thyroid gland, the author observed that this body had nearly disappeared, the only part remaining being a small portion of the left lobe, intimately joined to the tumor, so as to show that they were originally parts of the same body; and there was a complete line of demarcation between the two structures.—*Royal Med. Chir. Soc.*, from *Med. Gaz.*

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15. *On the Cause of the occasional presence of Spermatoza in the fluid drawn from the sac of common hydrocele of the tunica vaginalis.* By John Dalrymple, Esq., Surgeon to the London Ophthalmic Hospital.—The author commenced by referring briefly to the cases published in the last volume of the Society's Transactions, where spermatoza were found in the fluid drawn both from encysted and from common hydrocele. According to his own observations,

these bodies are generally much less numerous in the latter than in the former kind of the disease, and the explanation which he offered of the mode in which they become mingled with the fluid of common hydrocele, when evacuated by the trocar, was the following. He quoted the authority of Scarpa to show that when the tunica vaginalis becomes distended with fluid, the different vessels of the spermatic cord are separated from each other to a greater or less distance, owing to the gradual expansion of the membranes, and the epidydimis and vas deferens are consequently removed out of their natural places in reference to the body of the testicle. He likewise presented to the Society a preparation, with a drawing, of a hydrocele, in which that condition of the tubes of the testis was exhibited. The testicle was situated at the posterior and inferior part of the sac, and somewhat internally: the vascular cord was seen running along the posterior wall, the vas deferens being about one inch distant from it, and to the outside; at the lower part of the sac, the vas deferens approached the testis, made a few large coils, from which commenced the lower head of the epidydimis; as this body ascended again, it was seen to be separated to the distance of an inch and a half from the testis, and to lie on the lateral aspect of the sac. Above the testis, the position of parts was as follows:—The vascular cord at the most posterior part of the sac; the vas deferens next to it, but distant about half an inch; and, lastly, the epidydimis, still more external, and anterior to the vas deferens. At the upper part, the epidydimis suddenly crossed the vas deferens, and descended in a curved line towards the body of the testicle, in which it finally merged.

The author concluded by expressing his opinion, that in cases of common hydrocele, the epidydimis and vas deferens are placed by no means out of danger of being punctured by the trocar, in the operation of tapping; and added, that the wounding of even a single tube, might well afford the few spermatoza found in the specimen of fluid referred to above, the more especially when we remember the squeezing often made to evacuate the last few drachms of the contained fluid.—*Ibid.*, from *London Medical Gazette.*

16. *Luxation of the Knee forward*—A man about 40 years of age was admitted into the *Hôpital Beaujon*, upon the anterior part of whose thigh, a barrel of wine had fallen, and rolled over him; the knee-joint experienced a violent shock, and the condyles of the femur were thrown backward, while the tibia remained in front and was pushed up so as to overlap the femur. This was his condition when brought to the hospital. The young men on duty had no difficulty in recognizing a complete luxation of the tibia forward; the form of the knee was rounded, and the patella was in a line parallel with the anterior face of the femur. The luxation was reduced without difficulty; the limb was kept perfectly still during six weeks; and at the expiration of this time, he was able to move it a little, although the articulation still remained feeble. After the first two days, there was no pain in the articulation.

17. *Curious Malformation connected with Congenital Imperforate Anus.*—A female child, two days old, was brought to the Hôpital Saint-Louis to be operated on by M. Boyer, for an imperforate anus. There was no external sign of an orifice in the region of the anus; the abdomen was tympanitic and painful. M. Boyer made a small incision in front of the coccyx, and examined carefully with the end of the finger, the bottom of the wound. Finding a fluctuating tumor, he, without hesitation, inserted into it a *trois quarts*, when the escape of stercorateous matter in a liquid state, led to the supposition that the instrument had penetrated into the intestine; the abdomen decreased in size, and for a short time everything progressed favorably. Peritonitis, however, ensued, and the child died.

Necropsy revealed the following condition of things:—The rectum terminated in a pointed *cul-de-sac*, immediately behind the bladder, and it seemed as though it had been tied with a ligature; it contained hardened fecal matter, and its cavity communicated by two very small openings, the one with the bladder, and the other with two distinct sacciform bodies, placed on each side of the bladder. These two sacs were about the size and shape of the thumb of an adult; each one was found, on a close examination, to consist of a uterus and vagina; and these two uteri and vaginæ, situated on each side of the bladder, received, as through a conical filter, the liquid portions of the matter contained in the intestine. It was into one of them that the *trois quarts* was found to have penetrated.

OBSTETRICS AND DISEASES OF FEMALES.

18.—*Treatment of Puerperal Diarrhœa by Diacetate of Lead.*—By W. S. Oke, M.D., Southampton.—[Dr. Oke relates two cases of inflammation of the mucous membrane of the bowel occurring soon after parturition, in which the most obstinate diarrhœa was continued, in one case to a fatal termination, and in another for some time, notwithstanding the usual routine of practice by calomel and opium, catechu, morphia, leeches to the tender abdomen, fomentations, &c. The diarrhœa was frequent and exhausting, the stools were foul and thickened with slimy mucus, countenance anxious, eyes sunk, pulse 140, and the patient sleepless. The diacetate of lead combined with opium was now commenced.]

A grain of the diacetate and a grain of opium were immediately given, and the same dose repeated every two hours whilst the diarrhœa required it; at the same time, the cretaceous mixture was to be given after every liquid stool, as before.

This treatment soon produced the happiest effect. From the moment the diacetate of lead was taken, the diarrhœa gradually subsided; her sleep returned, and in forty-eight hours the pulse fell from 130 to about 96 in the minute. The dose of the diacetate and opium was of course diminished, and the intervals of giving it protracted as the symptoms yielded to its use; in short, under the saturnine treatment she completely recovered. When diarrhœa, as the result of ulceration of the mucous coat of the intestines, begins to take place, I know of no symptom more uncontrollable by any mode of treatment that had hitherto been adopted. It is singular that certain preparations of mercury, combined with opium, so beneficial in ordinary cases of diarrhœa, and also in some cases of cholera, should so completely fail in diarrhœa associated with denudation of the villous coat of the intestines. A young man, a butcher by trade, had a long-continued diarrhœa of fæcal matter, mingled with sanies. There was no organic stricture that could be detected. As every possible means had been tried in vain, I resolved to bring the system under the action of mercury, in the hope of causing the ulceration to heal. Accordingly, by means of the blue pill combined with opium, he was kept in a state of ptyalism for a considerable time, but it had not the slightest effect on the disease.

My attention was drawn to the efficacy of the diacetate of lead in diarrhœa by Dr. Graves' excellent work on Clinical Medicine, and it appears that his attention to it had been awakened by Dr. Bardsley of Manchester. Dr. Graves, after having lost all confidence in calomel for the cure of epidemic cholera, thus writes (page 697): "It was, however, a question of deep anxiety to me what I should select instead, or to what article in the materia medica I should have recourse, when so many had proved so utterly valueless. About this period I happened to be called on to attend a case of obstinate diarrhœa, with my friend Dr. Hunt. The case was an extremely harassing one, and had resisted all the ordinary remedies. I advised the use of the acetate of lead and opium in full doses; this was given, and I had the satisfaction of finding that the diarrhœa soon yielded. Before this period I had received a letter from that able practitioner and excellent man, Dr. Bardsley of Manchester, directing my attention to the use of acetate of lead in large doses in that form of diarrhœa which precedes and accompanies inflammation of the glands of the small intestines."

The result of the second case above related—and a *very strong case it is*—enables me to bear testimony that the diacetate of lead is also an effectual remedy in acute puerperal villitis, associated with diarrhœa, and a pulse of 130 in a minute—a disease which no other remedy could combat, and which, in all human probability, would soon have destroyed the patient.—*Braithwaite's Retrospect*, from *Prov. Medical Journal, Sept.* 23, 1843, *p.* 524.

19.—*Neuralgia of the Urethra.*—A woman, thirty-two years of age, mother of four children, suffered for eight months from pain at the lower part of the abdomen, with scalding on making water, and a constant sense of titillation at the orifice of the meatus. The pain became so severe as to prevent the patient from sleeping. The bladder was examined, but no sign of calculus found. Various remedies were tried without effect. Two issues, with the Vienna caustic, were now made over the hypogastric region. The patient had tepid baths, containing two drachms of the sulphate of potass, and some pills composed of hyosciamus and extract of lettuce. This mode of treatment effected a cure.—*Prov. Med. Jour., June* 3, 1843, *p.* 201.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

20. *Hydrated Peroxide of Iron in Poisoning by Arsenic.*—To a young woman, supposed to have swallowed about five drachms of white arsenic, one grain and a half of tartar emetic was given, and a clyster with three ounces of olive oil. After one minute, vomiting took place, of a greenish liquid and a little blood, in which arsenious acid was detected. Immediately the hydrated peroxide of iron, in a large dose, was commenced, and continued for several hours till 2½ pounds of it had been taken. After each dose renewed vomitings occurred, by which all the poison seems to have been dislodged. In the evening the use of an emolliant ptisan, containing some nitre, was followed by a copious stool and an abundant diuresis. The hydrated peroxide was continued, and in eight days the patient was convalescent.—*Gaz. des Hôpitaux*, Aug. 15.

21. *Symptoms produced by different Narcotics.*—By M. Eitner.—Belladonna, besides its narcotic effect, is productive of furious delirium and great congestion in the brain. Hemlock and henbane have rather a soporific than a narcotic power, but they produce cerebral congestion and convulsions. Stramonium excites a scarlatinous redness of the skin, and excitement of the genital organs with salacity. Nux vomica and strychnine bring on epileptic convulsions, and a peculiar rigidity of the extremities, symptoms lasting till a sudden prostration takes place. Alcoholic drinks produce lethargy with spasms, but no strikingly marked congestion. Opium and morphine cause slight delirium, which soon gives way to supineness; face ruddy, and extremities cool; pulse weak and tremulous; constipation, or else involuntary evacuations. Tobacco causes a state of asphyxia and syncope, paralysis and relaxation of the limbs, and involuntary evacuations. Poisonous fungi, with a true narcotic effect, make the extremities cold, and cause constipation; abdomen inflated and painful; pupils contracted. Prussic acid, bitter almonds, &c., induce a state of asphyxia and paralysis, and if death be not immediate, a soporific state, with congestion in the brain.—*Amer. Jour. of Med. Sci.* from *Medicinische Zeitung. Encyclographie de Sciences Médicales*, May, 1843. T. R. B.

22. *Toxicological effects of Sulphate of Quinine.*—By M. Melier.—M. Melier read a memoir to the Academy of Sciences, in which he gave an account of some experiments of Magendie, on the effects of poisonous doses of sulphate of quinine. Dogs were poisoned with this substance, and on dissection, distinct fluidity of the blood was observed, and morbid engorgement of the parenchyma of the lungs. M. Melier, therefore, cautions against administering the large doses that it has been the practice of late to do.—*Ibid.*, from *Comptes Rendus.*

T. R. B.

MISCELLANEA.

23.—*Artesian Wells.*—A new feature in hygiene and domestic and rural economy is gradually exhibiting itself in the Artesian wells. In Westphalia, writes M. Humboldt to the Paris Academy of Sciences, it is intended to bore to a depth of 2000 metres (a mile and a quarter English), and at that depth, it is supposed that the water will be of the great heat of 70° centigrade (158° F.). The borers have reached a depth of 622 metres. It is the intention of the French government to make an Artesian well in the *Jardin des Plantes* of a depth of 900 metres, which will, it is supposed, furnish water at an elevated temperature, to be appropriated to heating hot-houses of the gardens, supplying the contiguous hospitals of La Pitié and La Salpetrière for baths, washing, &c., and thus effecting a great economy in fuel.—*Bulletin of Medical Science, December*, 1843.

24. *Microscopic Examination of the Tartar of the Teeth.*—Hitherto this calcareous incrustation has always been regarded as a mere inorganic deposit from the saliva; but M. *Mandl* has been led, by his recent observations, to adopt a very different opinion respecting it. According to this gentleman, the tartar of the teeth is almost entirely composed of the skeletons or cases of infusory animalculæ, agglutinated together by dried mucus; just as certain soils (so says the great German microscopic naturalist, *Ehrenberg*) consist of fossil Infusoria.

If a portion of the mucosity, which is adherent to the teeth, be mixed with a little water and heated, and then subjected to microscopic inspection, it will be found to exhibit a number of infusory animalculæ, which are in active motion. Their shape is identical with that of the animalculæ known by the name of *Vibrio.* The presence of living Infusoria in mucosities was known to *Leuwenhock;* but the fact seems to have been forgotten, until revived by M. *Mandl.* Having satisfied himself that they exist in the mucosities of the mouth, he set himself to ascertain whether they contributed to the formation of the tartar of the teeth; and he was not long in discovering that this substance chiefly, if not entirely, consists of dead *vibrios* cemented together by dried mucus. From this circumstance, may we not infer that these animalculæ are provided with an inorganic calcareous covering to their bodies?

It may be useful here to state that, according to the analysis of M. *Vauquelin*, the tartar of the teeth consists, in the 100 parts, of 66 of phosphate of lime, 9 of the carbonate, 14 of animal matter, and 3 of oxide of iron and phosphate of magnesia.—*Medico-Chirurgical Review, for January*, 1844.

25.—*Election of Officers of the Royal Academy of Medicine of Paris.*—At the last annual meeting of this Society, the following gentlemen were chosen officers for the year 1844:

Monsieur Ferrus,	President.
" Cavenion,	Vice President.
" Dubois d'Armiens,	Secretary.
Messrs. Louis, Paul Dubois, and Londe,	Members of the Council.

26.—*Prize Essay of the Royal Academy of Medicine of Paris.*—This institution has awarded to Monsieur Valleix, the Prize of 1500 francs proposed by it last year for the author of the best memoir on the following subject—"To examine into the causes of Œdematus Laryngeal angina (œdema of the glottis); to indicate its progress, successive symptoms, and differential diagnosis; and to discuss the advantages and disadvantages attending the operation of Tracheotomy, as applied to such cases."

27.—Abraham Colles, M.D., of Dublin, well-known as one of the patriarchs of the Medical profession, has recently closed his earthly career.

2.

American Medical Intelligence.

CERATOPLASTICE IN MAN.

Mr. Editor :—In the fall of 1838, I performed the operation of "Keratoplasty" on the eye of James Dunn, in the presence of Drs. J. C. Paul, Wm. C. Roberts, J. B. Kissam, and P. Pratt; and the case was subsequently seen by Dr. Edward Delafield. But for the hope of repeating and confirming the operation, I should have communicated it at an earlier date. I now send it to your Journal for the purpose of placing it upon record.

Very truly, yours,

New York, Feb. 13, 1844. Richard S. Kissam.

James Dunn, æt. 35, an Irishman of good constitution, having one eye entirely destroyed, and the other presenting a staphyloma with adhering iris, capable of distinguishing only a very bright light, presented himself for relief.

About this time I had seen the account of Mr. Bigger's experiments of transplanting the cornea of one rabbit to the eye of another, with success, and I determined to give the patient the only chance that presented itself, that of transplanting a new cornea to the seat of his opaque one.

Having obtained a pig about six months old, I prepared for the operation. I provided myself with several curved needles of the smallest possible size, and with Beer's cataract-knife.

The patient was placed on his back, on a table. I then attempted to remove the cornea from the animal; but in this I was foiled, as the pig had the power of retracting the eye within the orbit.

Then it was determined to extract the eye from the socket, which was done, and a piece of cornea half as large as the thumb nail was cut out and placed upon the end of a piece of cork, and two ligatures passed through it at opposite sides.

Now, with Beer's cataract-knife, I removed the necessary portion of the protruding cornea of my patient, and to my great regret found the vitreous humor in a very fluid state, so that great caution was necessary to prevent its evacuation.

The cornea from the animal appeared more like cobweb than any other material, but it was carefully *laid over* the aperture in my patient's eye, and secured by the two ligatures on a line with the angle of the tarsi. The ligatures were now cut short, and the lids carefully closed.

After twenty-four hours, I discovered, on separating the lids, a violent chemosis, which, in twelve hours more, had so much subsided as to allow me to remove the ligatures, when I was both surprised and delighted to find the transplanted cornea had united with the patient's, and of believing myself the first who had succeeded in this operation on the humun eye.

In the course of two or three days the inflammation diminished, and now were clearly revealed the wonderful powers of nature in adapting herself to contingencies.

The chemosis was so great that the raised conjunctiva served as a cushion to protect the transplanted cornea from irritation of the moving tarsi; but more important still, it over-lapped the added cornea, so that like surface was applied to like surface, and then united. It will be remembered that the cornea of the animal was laid *over* that of my patient, and thus the internal surface of the transplanted cornea was applied to the external surface of the patient's, placing unlike surfaces in contact, which are not disposed to unite.

From the delicacy of the parts, it would be utterly impracticable to *fit* in an aperture, a piece of foreign substance equally delicate.

The vision, *immediately* after the operation, was improved, inasmuch as an increased quantity of light was admitted through the new transparent cornea; the light was of all the colors of the rainbow, being decomposed by passing through the diseased humor of the globe. The cornea continued transparent a fortnight, when it commenced to become opaque; and in the course of a month it was absorbed.

I believe that had the internal structure of the eye been perfect, no absorption would have occurred, because what is necessary is generally preserved; unnecessary parts nature does not long preserve. The transplanted cornea was worse than useless, because, though it transmitted light, the light was decomposed, and was of no benefit to vision.

After the absorption of the new cornea, the remains of the old one contracted upon itself, thus materially improving the appearance and comfort of the patient, the irritation of the protruded staphylomatous cornea being removed.

To those who shall attempt repeating this operation, I would say, place your sutures above and below, and not at the sides, as the sharp edge of the lower tarsus was a source of disturbance, inasmuch as it engaged in its movements the new cornea, and lifted it up. This I was obliged to remedy by passing a ligature through the integuments near its edge, thus securely drawing it down so as to prevent motion.

Note to Dr. Roberts' Pyretological Inquiries.—While the sheets of this article are passing through the press, we had occasion to examine the Lecture of Drs. Armstrong and Watson, the latter recently published, and one of the most practically useful books that ever was presented to the student. There are in both these volumes some coincidences of opinion with those published in our Inquiries which we desire to notice. Dr. Armstrong was once a strong believer in the contagiousness of typhus; but of later years changed his sentiments, and, in the work before us maintains with plausibility, energy, and eloquence the idea of its infectious nature. He died in the belief that "what is now commonly called typhus fever, arises from malaria, or marsh effluvia; and he evidently considers that intermittent, remittent, and continued fevers arise from the same cause, *and are the same disease* with certain modifications. He states that he saw a case which began as intermittent, became remittent, and ended as typhus of high malignity.—(Lect., p. 435.) He speaks of intermittent, and remittent typhus.—(V. Inquiries.) Dr. Armstrong notices the fact that typhus arises in *single cases*, at the same time, in places remote from each other, and explains them by local malarious infection. These are the cases we have alluded to upon p. — of our Inquiries, and have there attempted to account for, but not in this mode, which is another and a possible way of explanation. He coincides with Dr. Southwood Smith (v. Inquiries, p. 182) in saying "that intermittent fever puts on the remittent type, when slight inflammation occurs; and the continued character when it is higher and more extended."—(Lect., p. 457, Am. ed., 1837.) This idea refers the character of the fever to the intensity of the local lesion, and leaves out of view the intensity of the poison, both in inducing those lesions and in influencing the type of the disease. Plague and yellow fever, Dr. Armstrong considers as modifications of typhus.—(472.) We refer the reader for a general similarity of views to p. 182 of this volume, line 13th et passim. Dr. Armstrong denies the existence of a fever *sui generis* with puerperal state, considering such cases to be either, in his own language, common inflammatory fevers (inflammations), or specific fevers (typhus), occurring in that state; by accident occurring in the one case, in the other by malarial influences, as at any other time, but with certain necessary modifications, and not contagious. The reader is requested to compare this statement (Lect., p. 511) with the note on page 182 of this Journal. The work of Dr. Armstrong is the production of a genius. That of Dr. Watson, of a scholar; both are eminently practical and interesting from their style, which is familiar; but the latter is the safer guide, and more in accordance with existing doctrines. "There is," says Dr. Watson, "*but one species of continued fever*, although there are many varieties.—(P. 836, Lect. on the Principles and Practice of Phys., Philadelphia, 1844.) (V. note on p. 185 of the Inquiries.) "All analogy," says Dr. Watson, is in favor of the primary change being wrought *on the blood itself.* Dr. Watson is "sure that it is an error to suppose, with some pathologists, that fever is essentially nothing else than inflammation of the glands of Peyer" (844), and has seen *many cases* when continued fever has occurred without any trace of a morbid action having gone on in the mucous follicles; but although not the essence, it is a very frequent companion of continued fever. "The synochus of Cullen, is," according to him, "the most usual variety of continued fever;" and, from page 846, line 8th, he evidently does *not* believe that typhus and the typhoid fever are distinct diseases. He considers the disease *contagious*, using the term in its proper sense, as a commuuicable animal poison. He acknowledges that it is presumable, that it may originate from other causes than contagion; as even those diseases which have no other known cause; but says that it is not easy to be sure that in some way or other, contagion has not acted.—(P. 851.) Such are the sporadic causes to which we have alluded. "I confess," says he, "my own opinion to be that continued fevers originate, in all cases, from specific contagion, like the exanthemata. *With respect to all these diseases, I conceive that in every large community, there is constantly kept up a sufficient stock of contagious matter, to act as a sort of leaven, whenever circumstances favorable to the development of the disease may arise.*"—(851.) Dr. Watson does not think that continued fever may be generated from the effluvium of crowded healthy human bodies, but from the putrefaction of dead organic matter, relying on Dr. Bancroft's investigations for the truth of this opinion, in which we, as appears from our essay, do not coincide. These are considered by Dr. Watson, with cold, &c., as predisposing causes only, and certainly if typhus is considered as an exanthema, which is highly probable, and we believe that all such originate in a specific contagion, which is true as far as we know, such a conclusion inevitably follows. But this is a point which needs further investigation. Either Dr. Watson is correct, or typhus differs in this from the exanthemata, that it has two modes of origin, or the exanthemata are capable of spontaneous origination independently of contagion. In the first of these events, what becomes of the theory of the paludal, malarious, or infectious origin of typhus, so generally acknowledged, and seemingly so well demonstrated. In the second, the analogy of typhus with the eruptive fevers is materially interrupted. The subject is manifestly one of extreme interest. Puerperal fever, Dr. Watson appears to consider, with Ferguson, as always induced by a cause within the body of the patient, as by contagion, and does not allude to its connection with typhus. The reader will not fail to observe many striking coincidences between the statements now quoted from the two authors named, and the passages in our Inquiries with which we have compared them. By Professor Dunglison, it is said, page 566, volume II., Practice of Medicine, Phil., 1842, that Louis now admits without hesitation, *the contagious nature of his typhoid fever.* This note could not be prepared in time to be appended to the article itself, and we are indebted to the kind permission of the editor for introducing it here.

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Medical Schools and their Classes.—It appears from the several catalogues received by us, that the attendance of students the present winter, at the various Medical Colleges, has been unusually large. At Philadelphia, the classes, they say, are larger than at any former season. The catalogue of Jefferson College gives a total of 341, and the University of Pennsylvania claims more than her average number. At Boston, Albany, Geneva, New Haven, Castleton, Bowdoin, Louisville, Lexington, Cincinnati, and our own city, we learn that all have augmented numbers. This result is probably due to the circumstance of the pecuniary distress which has prevailed for the last few years, but which now fortunately has been succeeded by more prosperous times.

In the Medical Examiner of January 27th, we are told that the means of *Clinical Instruction* afforded by Philadelphia, are exceeded only by Paris and London. The editor, who is also a professor, exclaims in glowing language—"*as 'the metropolis of medical science' on the American Continent, it is incumbent on her to be foremost in the march of improvement.*" Now, as we are ourselves a native of Pennsylvania and a graduate of Philadelphia, we are at no loss in appreciating this modest praise; but we would, at the same time, invite this Professor of our Alma Mater, who did not, however, hold that honorable position in our day of pupilage, to make a visit to the *commercial*, if not the *medical*, metropolis.

It would afford us no small gratification to be the medium of showing him the onward march of medical science in the city of New York. The time has now come when this metropolis of the Union must take the first rank as well in medicine as in commerce, among the cities of the New World. The foundation is firmly laid in the multitude of highly educated physicians who now adorn our profession, and in the ability and emulation with which our two medical schools are conducted. An impulse has been given within a brief period, to medical education in the city of New York, which has sprung from sources that nothing can impair, but which are perpetually multiplying in an augmented ratio. Of that ratio, and of its prospective increase, some conception may be formed by the fact, that in 1840 there were in attendance on the medical lectures, 101 students, and that, at the present session of the two schools, the number exceeds 500. Of these, 325 are attached to the Medical Department of the University, now in the third year of its existence, while the College of Physicians and Surgeons has perhaps doubled its numbers within the same period. Its catalogue for 1843–4 numbers 182 students, exclusive of 30 gentlemen engaged mostly in practical anatomy, whose names are not published, because, in consequence of being graduates of the College and for other reasons, they were not allowed to matriculate.

The resources of the city are in full development. Its population already reaches 400,000. Its anatomical opportunities are so vast that it furnishes supplies to the medical schools from Maine to New Orleans. Its Hospitals, and Dispensaries, and Eye-Infirmary, and other charities, are on a scale commensurate with the wants of the largest medical institutions; and clinical instruction is given daily to a large concourse of students from both schools, at the Hospital in Broadway, by its eminent physicians and surgeons. Each school has also a *clinique* of its own; and, at the University College, this instruction is delivered by Professor Mott throughout the year; by whom, also, as well as by the surgeons of the Hospital, operations are constantly performed in presence of the students. An *obstetric clinique* has been also in progress, under the superintendence of the Professor of Midwifery, at which more than 600 cases of labor have been attended by the students of the University School, during its first two and present sessions. At the College of Physicians and Surgeons, arrangements also exist to supply the elder students with cases, by which they may become familiar with the details of obstetrical practice; and here, likewise, is a surgical clinique, under the care of that excellent operator, Prof. Parker.

Besides, we have two spring courses of lectures; the one, the Hospital School of Medicine, consisting of Drs. Post, Buck, Watson, Swett, and Griscom; and the other course is given by an association of gentlemen, who are connected with different medical institutions of the city, viz., Drs. Bulkley, Clarke, Gilman, McCready, Parker, Quackenboss, Roberts, Watts, and Wilkes.

To such exertions, a grateful public owe, at least, a passing tribute of its thanks ; nor can we permit ourselves to believe that this unexampled success in the history of medicine will not excite the admiration of the world, increase its respect for the literature of our Union, give origin and impulse to other literary enterprises, raise emulation among its kindred institutions, animate the profession with a zeal for medical learning, and secure for so much enterprise the substantial reward of a class of some 600 or 700 students at the next following session.

The Sydenham Society.—It is with much satisfaction that we can introduce to our readers the project advanced in the subjoined advertisement, which addresses itself in the most inviting language, to every medical man who has at heart the good of his profession :

"The subscriber, having been appointed "*Local Secretary to the Sydenham Society*," of London (Sir Henry Halford, F.R.S., President), for the city of New York, and the neighboring States, would take this method of informing the profession, that this Society has been instituted for the purpose of meeting certain acknowledged deficiencies in existing means for diffusing medical literature, which are not likely to be supplied by the efforts of individuals ; which objects it designs to carry into effect, by a succession of cheap publications, embracing, among others—1. Reprints of Standard English Works, which are rare or expensive ; 2. Miscellaneous Selections from the Ancient and from the earlier Modern Authors, reprinted or translated; 3. Digests of the works of old and voluminous authors, British and Foreign, with occasional Biographical and Bibliographical Notices; 4. Translations of the Greek and Latin medical authors, and of works in the Arabic and other Eastern Tongues, accompanied, when it is thought desirable, by the original Text ; 5. Translations of recent foreign and original works of merit, which might prove valuable as books of reference, but which would not otherwise be published, from the slender chance of their meeting with a remunerating sale—such as Bibliographies, alphabetical and digested Indices to voluminous periodical publications, &c.

"The following works are in course of publication, and may speedily be expected: 1. A complete edition of *Sydenham's Works*, in Latin. Edited by Dr. Greenhill, of Oxford. 2. A complete edition of '*Hecher's Histories of the Epidemics of the Middle Ages ;*' with a Prefatory Notice and an Appendix by the author. Translated from the German and edited by B. G. Babington, M. D., F.R.S. 3. The first volume of Hasse's '*System of Pathological Anatomy.*' Translated from the German, and edited by Dr. Swaine and Alexander Ure, Esq.

"The subscription is *Five Dollars*, annually. For this sum, the above works are promised for the present year, and perhaps one or more of the following (depending, however, on the number of subscribers—at present amounting to 1200). 1. The Medical Works of *Paulus Egineta*. Translated and edited by Francis Adams, Esq. With a Commentary, comprising a complete view of the knowledge possessed by the Greeks, Romans and Arabians, on all subjects connected with medicine and surgery. 2. The complete works of *Hewson*. 3. An edition, in English, of *Sydenham's Works*. 4. A complete edition, in English, of the works of *Harvey*. 5. A translation from the German, of *Schwaun's Work*, on the '*Intimate Structure of Animals and Vegetables.*'

"From the plan of publication, it is presumed that the English copies will come at a lower price than even American reprints of the same, should they be reprinted. By a rule of the Society, its publications will only be supplied to subscribers; no copies being furnished to booksellers, either in Great Britain or America. Book-clubs will not be allowed to subscribe to the Society as members; but those Societies and Institutions which have *permanent* libraries, may subscribe to the Society in the name of their President, Secretary, or Librarian. Subscriptions, payable in advance ($5,00) *postage paid*, to

CHARLES A. LEE, M.D.

New York, Jan. 30, 1844.

"P. S. Among the '*Council*' of the Society, are Drs. Forbes, Pereira, Copland, Guy, Babington, Solly, Wilson, Farre, Philips, Anceil, Sharpey, Ure, &c. &c.; and among the *Vice Presidents* of the Association, are Drs. Abercrombie and Alison, of Edinburgh; Sir Benjamin C. Brodie, Sir James Clark, Henry Holland, M.D., Benjamin Travers, F.R.S., Sir James McGregor; Drs. Graves and Sir Philip Crampton, of Dublin; Dr. Kidd, of Oxford, &c. &c. C. A. L."

As the list of members already exceed in number, 1400, the Society, feeling itself authorized to carry its object into immediate effect, has now two works in press, which, it is expected, will very soon appear.

The Automaton with Articulated Voice.—We have had the pleasure of examining privately this *chef-d'œuvre* of human ingenuity—the result of eighteen years' unceasing labor, by a German, named Faber. It is constructed upon the model of the human organs of voice, the tongue, larynx, &c., being made of caoutchouc. As voice is the sound produced by air driven from the lungs through the larynx, causing a vibration of the chordæ vocales, it is a function of *animal* life; but this function, in animals inferior to man, as well as in the idiot, is limited to the production of the *simple* or *instinctive* voice; while, in intellectual man, it becomes sufficiently complicated for the purpose of articulation. This is regarded as an evidence of man's intellectual superiority. Here, however, we find the same phenomena produced by an apparatus of caoutchouc and a bellows!

The automaton is represented by a bearded Turk, and the articulations are produced by playing upon sixteen keys. We were quite surprised at being addressed by the automaton, in words very distinctly articulated, thus: "Wel-come Doc-tor For-ry." "Please ex-cuse my slow e-nun-ci-a-tion." After giving various other illustrations of his vocal powers, the automaton sang "Hail Columbia, &c.;" as we were about leaving, he said, "Gen-tle-men, I thank you for your vis-it."

But, after all, *cui est bono?*

Capsules of Cod-Liver Oil.—We have been shown by Mr. Milhau, at his pharmacy, 183 Broadway, beautiful capsules of cod-liver oil, prepared by Mr. W. F. Stone, by means of which the unpleasant taste of this medicine is wholly obviated. Each capsule contains, besides the cod-liver oil, one-twentieth grain of iodine. This oil is a remedy which has recently come into notice, as shown in some of our previous numbers; and, in Germany, it is regarded almost as a panacea.

The Medical Examiner.—The editorial chair of this Journal has changed occupants. The seat, so honorably filled by Meredith Clymer, M. D., is now in the possession of Robert M. Huston, M.D., who enters upon this new duty with the favorable prepossessions of his professional brethren.

Richard S. Kissam, M. D., of this city, has been chosen Professor of the Principles and Practice of Surgery in the school at Castleton, Vermont.

The American Journal of Science and Arts: Conducted by Professor Silliman and B. Silliman, Jr., of Yale College.—This Journal, which embraces in its plan, the entire circle of the Physical Sciences, and their application to the arts, has now reached its forty-sixth volume. Devoted to important national and universal interests, and having elicited, by prompting original American efforts, many valuable researches and discoveries, it is in this character known and accredited, both at home and abroad.

But alas! for American science, its subscription list has again become crippled, which seems to be a periodical infirmity, occurring at periods perhaps as far apart as the appearance of locusts. "At two former periods of exigency," say the Editors, "a frank disclosure was made to our subscribers and to the public, and we hesitate not to do it again, deeming it no personal humiliation, but an act of fidelity to the honor and the welfare of our country."

It behooves a medical man, if he wishes to maintain that position in educated society to which his profession gives him a claim, to keep pace with the progess of the collateral sciences; for medicine itself, as regards, for instance, the laws of mortality or the development or diffusion of diseases, is, strictly speaking, one of the branches of physical science. But this appeal is still more strongly made to the various military posts of our country, at each of which there is, already, either a small library or the nucleus of one. As respects the officers generally, the majority of whom are graduates of West Point, there is no periodical which can be more appropriately introduced.

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Charles A. Lee, M. D., of this city, has been appointed Professor of Materia Medica and General Pathology in Geneva Medical College, in place of Professor John Delamater, resigned.

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Meteorological Observations.—The Army Meteorological Register, we have the satisfaction of continuing in the present number. In our last, the observations on the barometer and the thermometer attached, were given by the French scale; but, on second-thought, the use of a foreign language in publishing the laws of climate, has appeared to us scarcely less exceptionable, than the use of the same language in publishing the laws of our legislators. Unfortunately, however, we did not discover, until too late to apply the proper remedy, that the French barometer alone has been reduced to the English scale. But this will be remedied hereafter.

We also here make a record of certain hourly observations on the barometer, taken simultaneously, at the suggestion of Sir John Herschel, at various points of the Earth's surface. These observations are thus directed to be taken at the military posts:

> "Hourly observations of the barometer will be taken for 24 hours, at the equinoxes and solstices, to correspond with those already instituted at numerous points of Europe and America, at the suggestion of Sir John Herschel. The days fixed upon for these observations, are the 21st of March, June, September, and December. But should any one of those 21st days fall on Sunday, then the observations will be deferred till the next day, the 22d. The observations at each station will commence at 6 o'clock, A. M., of the appointed days, and be continued at the beginning of each hour till 6 o'clock, A. M., of the following days, care being taken to obtain the correct time."

HOURLY METEOROLOGICAL REGISTER.

STATION, *Fort Columbus, New York Harbor. Lat.* 40° 42′ *N. Long.* 74° 9′ *W. Alt. of Bar. above low water about* 25 *ft.*

DATE.		BAROMETER.	ATTACH'D THER.	DETACH'D THER.	CLEAR. OF SKY.	WIND.		CLOUDS		WET BULB.
December 21, 1843.		Fahrenheit.	Centigrade.	Fahrenheit.						Fahrenheit.
6	A. M.	30·188	3½°	38½°	5	NW	2	NW	4	38°
7	"	30·192	4	39½	8	NW	0	NW	0	38
8	"	30·228	4	39¼	10	NW	0		0	37½
9	"	30·268	4	40	10	NW	0		0	38
10	"	30·268	5	40	10	NW	0		0	38
11	"	30·248	5½	42	10	NW	0		0	39
12	M.	30·248	6⅓	44	10	SW	1		0	42
1	P. M.	30·308	7	45	10	SW	1		0	45
2	"	30·308	8	46	8	SW	1		0	42
3	"	30·304	9	44	6	SW	1		0	42
4	"	30·304	5½	42	0	SW	1		0	40
5	"	30.308	5	41½	5	SW	2	SW	3	39
6	"	30.300	4½	41	5	SW	2	SW	1	39
7	"	30.280	4¼	41	0	SW	2		0	39
8	"	30.240	5	41	0	SW	2		0	40
9	"	30.240	6	40	0	S	1		0	42
10	"	30.240	5	40	0	SE	0		0	39
11	"	30.228	5	40	0	SE	0		0	39½
12	"	30·232	5	40	0	SE	0		0	39
1	A. M.	30·224	5	40	0	SW	1		0	39
2	"	30·224	5	40	0	SW	1		0	39
3	"	30·216	5	40	0	SW	2		0	38
4	"	30·208	5	40	0	SW	2		0	38
5	"	30·184	4	41	0	SW	1		0	38
6	"	30·112	4½	42	0	SW	1		0	36
MEAN . . .		30·248	5·24	41 12	3·88					39.32

METEOROLOGICAL REGISTER.

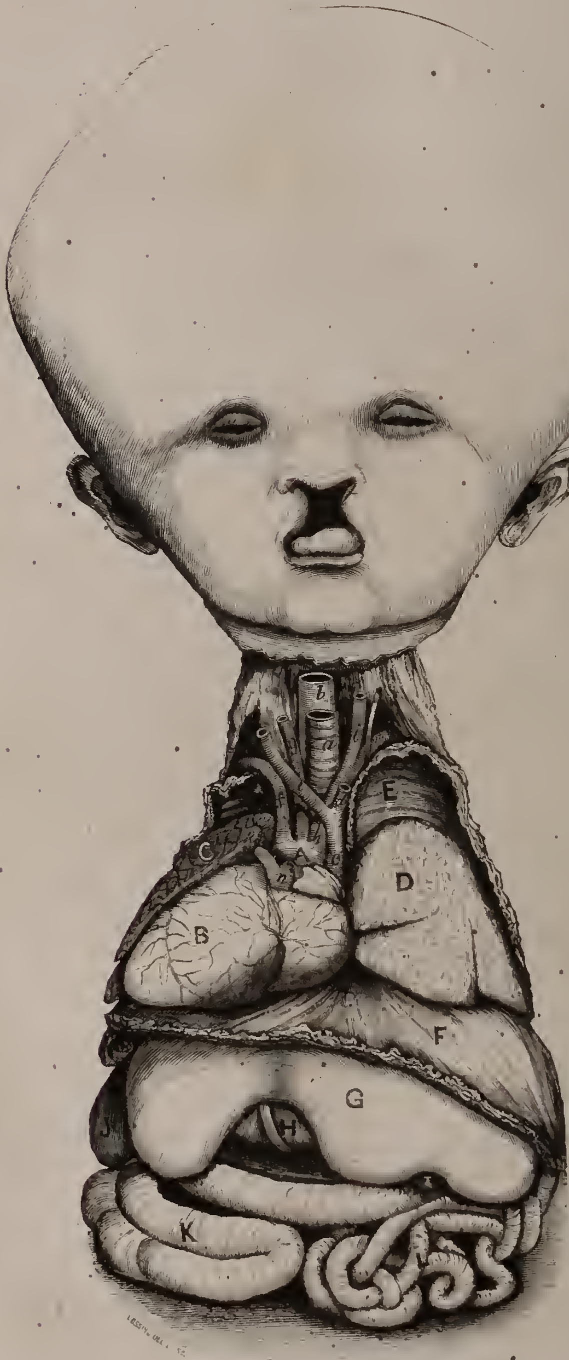
STATION, Fort Columbus, New York Harbor. Latitude 40° 42′ North. Longitude 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1843.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			HYGROMETER, at 3 P.M.		REMARKS.
Decemb.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer	
	Fahr.	Fahr.	Fahr.	Fahr.	Centigrade.	Centigrade.	Centigrade.	Centigrade.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	30·20	30 20	30·16	30·12	·5°	2°	3°	2°	30°	32°	34°	32°	32°	0	0	0	6	NE 1	NE 1	NE 1	NE 1	0	0	0	0	30°	31°	8 A. M.	3 P. M.	·01	26°	35°	
2	30·08	30·06	29·99	30·04	1	1	4	2	33	31	43	34	38	0	0	8	10	NE 1	NW 0	NW 1	NW 0	0	0	NW 3	0	32	40				28	44	
3	30·04	30·01	30·06	30·05	—2	1	6	2	32	34	44	35	38	10	10	10	10	NW 0	NW 1	NW 1	NW 0	0	0	0	0	31	40				25	43	
4	30·08	30·07	30·10	30·08	—5	2	5	3·5	29	32	42	39	35·5	0	6	5	0	NW 1	NW 1	SW 0	SW 0	0	0	SW 2	0	30	40				24	41	
5	30·08	30·02	29·96	29·96	—3	3	3·5	3	36	37	44	32	40	5	5	5	10	NW 2	NW 6	NW 7	NW 2	NW 3	NW 4	NW 2	0	33	38				20	43	
6	29·98	29·96	30·20	30·20	—6	1	3	4	28	30	32	34	30	10	10	10	0	NW 0	NE 0	SE 3	SE 0	0	0	0	0	29	32	8 P. M.			15	32	
7	30·04	30·02	30 00	29 92	—4	3	1	3	33	31	32	32	32·5	0	0	0	4	SE 0	SE 0	SE 1	SW 1	0	0	0	0	33	33		9½ A.M.	·72	30	31	Snow.
8	29·77	29·92	29·92	29·88	—5	2	6	2	33	36	41	31	37	10	10	2	2	NW 1	NW 2	NW 2	NW 1	0	0	0	0	32	36			·03	28	42	Snow during the night.
9	29·73	29·73	29·73	29·75	1	2	6	0	33	36	40	32	36·5	0	0	4	8	NW 0	NW 1	NW 4	NW 3	0	0	NW 4	NW 2	32	36				21	41	
10	29·95	30·02	30·12	30·10	—5	3	8	·5	30	35	42	32	36	6	9	8	6	NW 3	NW 2	NW 1	NW 1	NW 4	NW 2	0	0	31	44				21	42	
11	29·96	29·92	29·77	29·77	1	4	3	3	32	35	38	38	35	0	6	0	2	SW 1	SW 1	NE 0	NW 0	0	0	0	0	30	37	5 P. M.	6 P. M.	·01	24	40	
12	29·79	29,79	29 89	29·81	1	1·5	11	4	33	34	43	28	38	11	10	8	0	W 1	NW 0	NW 3	NW 5	W 3	0	NW 2	0	31	36				23	44	Very high wind during the night.
13	30·31	30·43	30·67	30·61	—7	6·5	9	5	18	20	36	25	27	10	10	10	0	NW 1	NW 1	NW 1	NW 0	0	0	0	0	22	26				15	37	
14	30·61	30·63	30·63	30·49	0	4·5	9	1	20	24	39	33	29·5	0	10	10	10	NW 0	NW 1	NW 2	NW 0	0	0	0	0	21	32				20	39	
15	30·55	30·47	30·45	30·35	0	2	3	5	31	37	38	40	31·5	6	10	10	10	SW 1	W 0	NW 0	SE 0	0	0	0	0	28	39				21	38	
16	30 35	30·33	30·20	30·20	3	3·5	4	4	37	39	40	40	38·5	0	0	0	0	NE 0	NE 1	NW 1	NW 1	0	0	0	0	36	40		5 P. M.	·15	38	41	Began in the course of the night of the 15th
17	30 01	30·02	30·00	29·98	2·5	3	4·5	4	36	38	39	37	37·5	0	0	0	0	NE 1	NE 1	NW 1	NW 1	0	0	0	0	32	37			·30	36	38	During the night.
18	30·00	30·08	30·00	30·00	2·5	2·5	3	3	36	36	38	36	37	0	0	0	0	E 2	E 1	SE 0	NE 2	0	0	0	0	31	37				38	38	Dense fog.
19	30·00	30·08	30·30	30·31	2	3	3	2 5	35	36	36	34	35·5	4	5	4	0	NE 1	NE 1	NE 1	NE 1	0	0	0	0	32	31				30	36	
20	30·23	30·23	30·19	30·07	2	5	9	4	31	38	46	40	40	10	10	10	0	NE 0	NE 2	NE 1	NE 2	0	0	0	0	33	38				36	47	
21	30·19	30·27	30·30	30·25	3·5	4	9	6	38·5	40	41	40	41·25	5	10	6	0	NW 2	NW 0	SW 1	S 1	NW 4	0	0	0	38	42				35	41	
22	30·11	30 01	30 01	29·99	4·5	4·5	5	5	42	40	40	40	41	0	0	0	0	SW 1	SW 1	SW 1	SW 1	0	0	0	0	36	41	4½ A.M.			38	40	
23	29·90	29·99	29·99	29·94	3 5	3·5	3	2 5	38	38	36	34	37	0	0	0	0	NW 4	NW 2	NW 2	NW 1	0	0	0	0	37	35		9 A. M.	·86	38	37	Including ·05 of snow.
24	30·00	30 03	30·02	30·00	3	3	3·5	3 5	31	36	38	38	36	0	4	8	0	NW 1	NW 1	NW 0	NW 0	0	NW 2	NW 2	0	33	37				35	39	
25	30·03	30·07	30 07	30·07	3	3	8	5	34	38	44	38	39	10	10	8	10	NW 1	W 1	W 1	W 0	0	0	0	0	31	40				35	44	
26	30·17	30 21	30·19	30·09	3·5	3 5	5	4	39	38	42	38	40·5	10	0	8	0	E 1	NE 1	E 1	SE 0	0	0	0	0	38	40	7 P. M.			37	43	High wind during the night.
27	29·95	29·97	29·93	29·92	2 5	3	9	5	35	36	46	41	40·5	0	10	10	10	NE 2	NE 4	NW 2	NW 1	0	0	0	0	38	43		6½ A.M.	.90	38	46	
28	29 91	29·92	29 88	29·90	3	3·5	5 5	.4	38	39	42	37	40	10	8	0	0	SW 1	SW 1	SW 0	SW 0	0	0	0	0	36	37	3 P. M.			40	42	
29	29·85	29·80	29·79	29·79	2	3	3	—1	35	38	35	31	35	10	5	5	10	N 3	NW 2	NW 6	NW 5	0	NW 4	NW 5	0	32	33			.33	34	35	Ended during the night.
30	29·79	29·80	29·78	29·72	—2	·5	2	1	28	30	31	31	29·5	10	10	10	10	NW 4	NW 4	NW 6	NW 7	0	0	0	0	28	29				30	32	
31	29·77	29·76	29·76	29·85	0	1	1	2	30	34	31	30	32	10	10	6	10	NW 4	NW 4	NW 4	NW 3	0	0	NW 5	0	28	31				31	34	
Monthly Mean.	30·05	30·06	30·06	30·01	2·70	2·81	5·10	3·09	32·93	34·97	39·32	35·00	36·12	4·51	5·74	5·32	4·13									31·81	36·58			3,34	29·46	40·13	

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude, 40° 42′ North. Longitude, 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1844.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN			HYGROMETER, at 3 P.M.		REMARKS.
January	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer.	
	Fahr.	Fahr.	Fahr.	Fahr.	Centigrade.	Centigrade.	Centigrade.	Centigrade.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	29·96	30·03	30·11	30·10	— 3°	0·5°	5°	1°	28°	30°	35°	32°	31·5°	5	10	10	10	NW 1	NW 0	NW 1	NW 1	NW 3	0	0	0	27°	30°				26°	34°	
2	30·11	30·11	30·10	30 08	— 1	7	5	5	29	40	36	36	32·5	10	10	0	4	NE 1	NE 1	NE 0	NE 0	0	0	0	0	26	36				30	36	
3	29·91	29·88	29·60	29·50	3·5	5	5·5	4·5	38	42	42	38	40	0	0	0	6	E 1	E 2	E 1	NE 6	0	0	0	NE 4	37	38			·75	44	42	Rain began and ended during the night.
4	29·53	29·59	29·60	29·60	— 2	1	4	0·5	32	32	39	32	35·5	10	10	6	2	NW 5	W 4	NW 4	NW 6	0	0	NW 3	NW 5	30	37				34	39	
5	30·06	29·94	29·99	29·99	— 2	2·5	4	— 3	26	27	30	26	28	10	2	8	8	NW 5	NW 5	NW 5	NW 5	0	0	0	0	35	30				20	30	
6	30·15	30·19	30·18	30·18	— 4	— 1	4	3·5	22	26·5	33	31	27·5	10	10	10	10	NW 2	NW 2	NW 1	NW 1	0	0	0	0	20	30				18	32	
7	30·10	30·10	29·88	29·85	— 1	1·5	3·5	3	32	37	38	37	35	0	0	11	6	SW 1	SE 1	W 1	NW 2	0	0	W 2	NW 4	30	36				20	38	Commenced blowing very high at ¼ to 12 M., equal to 7, ended at 1 P. M.
8	29·92	30·05	30·12	30·12	— 2	— 1·5	4	— 3	28	29	32	26	30	6	10	10	10	NW 4	NW 4	NW 2	NW 2	NW 3	0	0	0	29	26				30	32	
9	30 20	30·23	30·11	29·96	— 7	— 5 5	4	2·5	18	21	24	26	21	10	0	0	0	E 0	E 1	E 1	NE 0	0	E 1	0	0	20	20	12 M.			25	21	Began to snow at 12M. Ended during night.
10	29 90	29·91	29 88	29·95	— 3	— 2·5	3	0	26	27	37	38	31·5	0	8	5	0	N 0	N 0	NW 1	NW 3	0	0	NW 3	0	23	35			·16	21	36	Snow measured in substance on the ground 21 hundreths.
11	30·29	30·31	30·40	30·42	— 7	— 6·5	—1	— 4	18	19	28	23	23	10	8	8	10	NE 2	NE 1	NW 1	NW 0	0	NE 1	NW 1	0	22	26				9	29	
12	30·38	30·31	30·13	29·92	— 8	— 6	—2·5	0	16	20	30	30	23	10	10	0	0	SE 0	SE 0	SE 1	SE 1	0	0	0	0	20	24	7½P.M.			22	30	
13	29·40	29·40	29 40	29·56	1·5	2·5	4·5	1·5	31	36	40	31	37	0	0	0	8	W 3	NW 4	W 7	NW 6	W 1	NW 2	W 3	NW 4	34	36			·45	30	40	Ended in the night. Squally at 3 P. M
14	29·92	29·95	30·03	30·08	0	0·5	2·5	0·5	32	34	35	32	33·5	0	4	6	0	N 0	N 1	NW 0	NW 0	0	0	0	NW 1	31	33				20	35	Commenced to blow a great storm at 5 P. M. and continued until 8 P. M.
15	30·12	30·12	30·14	30·20	— 3·5	— 2 5	—1·5	0 5	26	28	31	32	28·5	6	8	10	0	NE 1	NE 0	NE 0	NE 0	NE 3	NE 1	0	0	25	29				21	31	
16	30·03	29·95	29·79	29·77	1	1 5	3	3·5	31	36	35	38	34·5	0	0	0	0	NE 2	NE 1	NE 1	NE 0	0	0	0	0	33	37	6 P. M.	4 P. M.	·40	22	35	Rain began in the course of the night.
17	29·53	29·33	29·21	29·28	3	6	9	1·5	37	42	47	35	42	0	0	0	0	NE 0	NE 2	S 5	SW 9	0	0	0	0	36	46		4 P. M.	·70	42	47	Commenced suddenly to blow a hurricane at 12 M. ended in night. Barometical observation made at that time gave 29 12, Thermometer 44, Thermometer att'd. 7.
18	29·51	29·72	29·79	29·84	0	0·5	1	0	30	32	35	32	32·5	10	0	4	0	W 6	W 5	NW 5	W 7	0	0	NW 6	0	28	34				26	35	
19	30·04	30·11	30·18	30·20	— 1	1	4	1	30	36	35	33	32·5	10	10	10	0	NW 3	NW 4	NW 1	NW 0	0	0	0	0	26	33				17	36	
20	30·20	30·27	30·28	30·28	— 6	— 5	—1	— 5	20	22	21	22	22	10	10	10	10	N 1	N 2	N 1	NE 0	0	0	0	0	23	23				15	25	
21	30·28	30·28	30·28	30·23	— 9	— 7	—9	—10	8	12	16	14	12	0	0	0	0	NE 1	NE 0	NE 0	NE 0	0	0	0	0	10	18	2½ P.M.	6 P. M.		10	17	Slight snow—inappreciable.
22	30·17	30·21	30·23	30·20	— 6	— 6	—2	— 4	14	21	21	17	19	0	4	10	0	NE 0	N 0	NE 1	N 0	0	0	0	0	13	20				16	24	Commenced to rain in the course of the night and ended in sleet. Dense fog began at 3 P. M. ended at 6 P. M.
23	30·12	29·92	29·81	29 80	3	3	3	2·5	35	38	40	34	37·5	0	0	0	0	SE 2	SE 5	SW 0	W 0	0	0	0	0	36	38		2¼ P. M.	·20	37	40	
24	29·76	29·73	29·73	29·73	0	1 5	8	3	30	32	41	34	35·5	6	10	10	10	SW 0	W 0	W 0	W 0	0	0	0	0	28	38				28	41	
25	29·72	29·72	29·75	29·76	— 6	— 6	—1	— 8	18	18	18	12	18	0	0	10	10	NW 0	NW 3	NW 0	NW 4	0	0	0	0	17	19				9	18	
26	29·76	29·77	29·72	29·80	—12	— 9	—5	— 8	7	9 5	15	9	11	5	2	10	10	NW 1	NW 3	NW 3	NW 5	0	NW 2	0	0	9	14				5	15	Large fields of ice in the bay generally. Buttermilk or Long Island channel closed—people crossing on the ice.
27	29·92	30·00	30·11	30·14	—13	—11	—6·5	—11	3	5	10	5	6·5	8	10	10	10	NW 2	NW 3	NW 2	NW 0	NW 2	0	0	0	10	13				0	10	
28	30 09	30·15	30·11	30·12	—15	—13	—8	—10	4	6	18	12	11	10	10	0	10	NE 0	NE 0	NE 3	NE 2	0	0	0	0	5	20				5	17	
29	30·14	30·15	30·08	30·08	—15	— 8	—7	—11	3	8	12	6	7·5	10	10	10	10	NE 1	NW 2	NW 5	NW 4	0	0	0	0	12	14				0	13	
30	30·12	30·10	30·08	30·03	—11	— 9	—7	—10	10	13	17	9	13·5	0	0	0	0	SE 1	E 1	NE 0	NW 3	0	0	0	0	10	15				5	17	Slight snow in the course of the day—inappreciable.
31	29 99	30·00	30 01	30 01	—13	—12	—7	—10	5	9	18	11	11·5	10	10	10	10	NW 1	NW 2	NW 4	NW 2	0	0	0	0	8	14				0	18	
Monthly Mean	29·98	29·98	29·96	29·96	5·24	4·70	4·46	4·23	22·35	25·12	29·51	25·78	26·	5·35	5·35	5·51	5·00									23·	27·80			2·66	20·	29·55	



Dr [illegible] Case [illegible]

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PART FIRST.

Original Communications.

Art. I.—*Further Thoughts on the Hypotheses of the Chemico-Physiological School.* By Charles Caldwell, M.D., Professor of the Institutes of Medicine and Medical Jurisprudence, Louisville, Kentucky.

No. III.

Were they not, perhaps, too near being identical in substance with matter contained in my last number, I would here propose a question or two to Dr. Roget, or any other member of the school in science to which he belongs.

Whether do organic combination and arrangement produce life, or life produce them? If the former do produce living organized matter, and its properties and functions, what does produce *them?*

In the formation of a living function-performing being—say the chick in the egg, or the human fœtus in utero—which of the two takes precedence in respect of time, *vital action* or *organization?*

These are points on which, from his high standing and bold pretensions in physiology, the Doctor ought to be able to throw some light; or, if he cannot do this, he should frankly confess his ignorance of them, and thus surrender his *conditions*, *suppositions* and *assertions* in relation to them. For, as heretofore stated, these are the forms of phraseology on the subject, in which he almost exclusively deals. To established facts, and legitimate and defensible inferences, in the present disquisition, he is a stranger.

One stricture more on the Doctor's hypotheses, and I am done with them for the present—and perhaps *for ever*.

He objects to the *unity* of the vital principle as the source of the phenomena of life, on account of the diversified functions, or forms of vital action, which living organized matter presents.

He contends that each of those different processes owes its existence to a different kind of vital principle, or spring of action. In other words, if I mistake him not, he believes that each organ, or different form of living matter, which performs a function peculiar to itself, does so because it possesses a *vita propria*, or sort of life peculiar to itself. That the eye is endowed with a *vita propria*, because it sees—the ear, because it hears—the nose, because it smells—the liver, because it secretes bile—the lungs, because they arterialize the blood—and that, of course, the brain possesses numerous sorts of *vitæ propriæ*, because it is the seat and centre of the external senses, the source of voluntary motion, of animal propensity, of moral sentiment, and of intellectual action.

Notwithstanding the confident tone in which Dr. Roget announces this objection, and the feelings of triumph which he indulges, in what he regards as its impregnability, it is one of the weakest efforts and most palpable mistakes contained in his book.

Had the Doctor attributed to an *organizatio propria*, instead of a *vita propria*—a *special organization*, instead of a *special life*—the different forms of action and product presented in the economy of living organized beings, he would have shown himself to be an abler and more accomplished physiologist and inquirer, than I am now prepared to consider him. On the present point at least, his views would have been sounder and more easily made good. For, in the science of physiology, there is not a maxim more conclusively correct, than that, under the same sort of vital endowment, every organ of living matter acts in strict and undeviating conformity to its organization.

The stomach forms chyme, because it is fitly organized for that purpose; and no other organ in the body can perform the same function, because it wants that organization.

From its peculiar organization, the liver secretes bile, which no other organ can do, because it is not organized to that effect. For a like reason, the kidneys alone can secrete urine.

The lungs arterialize the blood, because they are, from their organization, lungs; and the heart contracts and expands, because, by its organization and structure, it is adapted to that form of action.

The muscles contract and relax, because of their muscular structure; and even the brain, spinal cord, and nerves, perform their numerous and diversified functions, because they are fitted to do so, by the organization bestowed on them.

Let the foregoing parts of the body be so altered in their organization and structure, that the liver shall be changed into the lungs, the lungs into the kidneys, and the kidneys into the salivary glands; and, under these metamorphoses, our author may impart to the altered organs whatever sort of life and vital properties he pleases, and he will fail to make them perform their present functions. Indeed, the very anticipation of such a result, from an experiment of the kind, would be Quixotic and ludicrous. Each portion of the body, if changed, will change its function, and act in conformity to its new organization.

In confirmation of my views on this topic, matter may be drawn abundantly from the principle of *gravity*, and the action of *steam*.

These are both *single* powers, each being, in its nature and tendency, *unique*. One of them acts exclusively toward the centre of the earth; and the other in every direction, by the *simple* property of *elasticity alone*.

Let the former of these, which is the source of action in our common time-pieces, be made to throw its influence on machinery constructed in one way; and the time will be told by two herculean figures, each armed with a massive club, which regularly appear, and give the correct account of the hour, by the number of blows struck by them on a huge bell. Until a few years ago, a time-teller of this description had been attached for centuries, to a church in London (St. Dunstan's), situated in Fleet street, near Temple Bar.

On another form of machinery, bring this force to bear, and at the end of each hour, a singing bird will hop from its place of concealment and announce the time by chanting the requisite number of notes.

The machinery being of another construction, but the moving power the same, at the proper moment, two doors will fly open, an ox issuing from one of them, and from the other a butcher with a cleaver or a ponderous hammer in his hands. With that weapon the man inflicts on the forehead of the beast, a number of blows, the last of which performs the double office of telling the hour and felling the ox; when both the man and the beast disappear, and the doors close on them. And these varieties in the form of action, the principle of gravity being their sole moving cause, may be rendered indefinite in number, by varying the structure of the machinery which produces them.

Of steam, whose force, as already mentioned, is the product of elasticity, the same is true. The various sorts of action which it may be made to produce by different forms of machinery, is almost innumerable. Apply it to one sort of mechanical structure, and it propels a ship through the water—to another, it drives a locomotive engine over land—to a third, it throws cannon balls—to a fourth, it breaks and hackles flax and hemp—to a fifth, it cards cotton or wool—to a sixth, it spins—to a seventh, it weaves—to an eighth, it knits, or otherwise produces stockings—to a ninth, it draws water from a reservoir, and projects it through pipes, for the extinction of fire—to a tenth, it saws boards, planes them, drives nails, and thus forms out of them different sorts of carpenter-work and furniture.

But why should I push this detail any further? By the requisite machinery, which can be easily prepared, steam can be made to do almost everything that man can do by his muscular power, and the mechanism of his body. And vary, I repeat, to a sufficient extent, the organization of living matter (the vital principle continuing the same), and to the fifty or sixty different sorts of action now performed by the human body, tenfold that number may be added.

Against the foregoing facts and principles, in mass, let Dr. Roget, his associates and followers, including every member of the chemico-physiological school, array themselves in hostility, as soon and as resolutely as they please, and as dexterously as they can. Without meaning to boast of anything that I myself have done in the matter (for my task has been an easy one), I fearlessly assert that they will fail in their assault. Truth is impregnable.

As successfully, therefore, shall the Doctor and his cohorts attempt to resist or tranquillize the tempest, or stay the waves of the tempest-beaten ocean, as to subvert the positions laid down and contended for in the preceding pages. If he and his allies think otherwise, let them embark in the struggle, and an enlightened public will decide on the issue. This challenge is tendered in behalf of the *cause*, not of the power or efficiency of the challenger.

It was my intention, as already mentioned, to offer a few animadversions on the chemico-physiological hypotheses of Dr. Carpenter and his very learned and able fellow-laborer, Dr. Prichard. But I waive the task at present, for two reasons. I have so far and unexpectedly protracted my examination of the sentiments of Dr. Roget, as not to feel at liberty to introduce into my discussion those of any other individual physiologist. And, as far as my memory serves me, there is no material difference between the chemical and physiological views of the two writers just named, and those on which I have already commented. Belonging, as they do, to the same sect, their creed can hardly fail to be also the same. It must be amenable, therefore, to the same tenor of opposition and remark. A few thoughts more, and my disquisition shall terminate.

Notwithstanding all the grave and erudite discussions that have been held by philosophers, on the subject of causation, it is an indisputable truth, that there are but two modes of arriving at a knowledge of causes sufficiently correct or even plausible, to justify us in attempting to decide whether they are the same or different from each other. And those modes are as conclusive as they are plain.

The first and most certain of them is, a strict and thorough examination of the causes themselves, having rendered them as subject as practicable to the action of our senses. In that case a knowledge of them as clear and satisfactory as comports with the condition of our faculties, in our present state of being, may be attained. Yet, even under this form of procedure, clouds and darkness too often dwell on them.

Of the existence and action of this class of causes we have illustration and proof in the following facts, the reality of which is universally admitted:

The sun's rising above the *eastern* horizon is the cause of day, and his descent below the *western*, the cause of night.

The influence of heat, light, moisture, and soil, is the cause which, in spring, produces vegetation; and the influence of cold in autumn and winter, the cause which arrests it.

And the agency of a severe blow on the head, brings an animal to the ground; and, as heretofore mentioned, that of steam suitably directed, propels a boat through the water, and a locomotive engine along the land. In these instances of action and effect, the causes may be regarded as positively known.

The second mode of inquiry consists in an examination equally strict, of the *effects* of causes (the causes themselves not being manifest or accessible), under circumstances as identical as possible; or if not identical, as similar as we can render them.

This mode, though not perhaps as decisive and satisfactory as the other, is, notwithstanding, sufficiently so to answer the common purposes of science.

Such is the creed to which I believe all philosophical inquirers adhere; and to which, as far as I can perceive, no reasonable objection can be offered. And its application to the topic I am considering, is direct and easy.

The immediate causes of chemical and vital action are too subtle and too deeply concealed in the recesses of nature, to be rendered the objects of any of our senses. They cannot be themselves, therefore, primarily examined; nor, of necessity, their identity or difference in that way ascertained.

As regards, however, the *effects* or products of chemical and vital causes, the case is different. They are easy of access, and may be subjected to minute and thorough examination. And, according to a fundamental law of causation, whose soundness is far above controversy or cavil, were their sources identical with one another, they also would be identical. And by the same law, were their sources similar, they would be similar. But far otherwise is known to be the fact.

Under circumstances as much alike, as man, with his present amount of knowledge and power can render them, the effects of truly vital and truly chemical causes are as widely different from each other, as light is from darkness, good from evil, or virtue from vice; or as any other opposites which nature can form, or imagination conceive.

Of genuine chemical action the highest products are gases and crystalline substances, the latter including granite, spars, siliceous crystals, and other more precious stones, its most elevated production ending in the diamond. True, in the thunder-cloud and the tempest, the volcano and the earthquake, chemistry is also concerned; but so, in like manner, is mechanical force. Those manifestations, therefore, of elemental power and strife are not to be regarded as products exclusively chemical.

But, comparatively, what are these insensible, motionless, and meaningless masses, just referred to, among which there is neither an organ fitted for useful action, a single manifestation of wise or beneficent design, nor any other attribute of a lofty character—among which, in fact, all is mere passive existence and organless forms, *vis inertiæ* and the stillness of death ?

From these *few* cold, inanimate and shapeless masses of matter, let us turn to the *countless*, self-moving, and operative products of vitality, each formed and fitted for the special action constituting its own economy, and mark the contrast in silence ; because it is too vast and striking to be expressed in words.

Before us, in this survey, is spread out, in all the beauty and elegance of their forms, which words cannot depict, and clad in the fascinating brilliancy of their colors, the entire vegetable growth of the garden, the field and the meadow, the plain, the mountain, and the flower-clad prairie. And the picture is enlivened, and its enchantment heightened, by the presence, sports, and music of the animal kingdom, in all their attractiveness and innumerable diversities, each diversity characterized by its adaptation to a specific end.

The scene of vitality we are thus contemplating, embraces every grade of living existence, from the moss to the cedar, and from the animalcule, through the inhabitants of the water and the reptile race ; the gorgeous insect tribe, the beautifully moulded and richly plumaged family of birds, and the multitudinous hosts of quadrupeds, up to man himself, the master-being and glory of the whole.

Let the gorgeous and magnificent pageant, thus placed before us, be examined and skilfully analyzed, and it will be found, in the structure and endowment of every object and product belonging to it, replete with manifestations of consummate wisdom and beneficence of design, and a corresponding power of appropriate action—the whole adapted to the production and maintenance of the welfare of each individual being, and of ultimate good to the mighty aggregate. Nor does truth permit us to deny, that such a spectacle, briefly and defectively as it is here depicted, comprises an array of objects as immeasurably transcendent (perhaps even more so) in their nature and attributes, over all that chemistry can produce, than is the genius of a Shakspeare or a Milton over the grovelling propensities of the reptile or the worm.

And shall this stupendous and resplendent scheme of divine workmanship, including, as a part of it, man himself, formed, as we are assured, "in the image of his MAKER," and whose mighty powers of observation and discovery reach to the very confines of material creation, while his scope of thought calculates the distances, bearings, and movements of the heavenly bodies, and detects the laws which govern them in their orbits—shall this unspeakable array of grandeur and glory be degraded by the notions of the chemist and his operations in his laboratory, to the level of a mass of nitrate of potash, sulphate of iron, or muriate of soda!! O! monstrous vanity and audacity of over-ambitious and perverted science!! Yet does Dr. Roget minister, with all the weight of his reputation, and the whole force of his talents, to the increase of this portentous and overwhelming deluge of error, by openly contending for the identity of chemical and vital affinities!

If a notion so extravagantly wild and visionary be not the result of a degree of *hallucination* tantamount to *monomania*, then do I resign all pretension to a correct knowledge of the meaning of those terms. That it is at least the consummation of error and an unsurpassed prostitution of science, neither the sober-minded chemist, nor the enlightened and correctly informed physiologist will, I feel confident, venture to deny.

I have often requested chemico-physiologists to favor me with an intelligible and definite interpretation of the phrases, "vegetable chemistry," "animal chemistry," or "vital chemistry," or of all of them, at option. But never have I received from them a pertinent reply. Why? Because, as I verily believe, they are unable to frame a reply satisfactory either to themselves or to any other enlightened individual.

I now solicit the interpretation again; and not only will *I* feel obliged to, but *science* will be benefited by, him who shall impart it. By the beneficient and valuable act, light will be made to shine, and spread its salutary influence, where nothing but darkness has hitherto brooded and concealed the truth.

Were I fully informed of the real meaning of the preceding phrases, I might possibly concur in opinion respecting them, with those who employ them. But I can offer no concurrence in relation to anything which is beyond my comprehension.

Do chemico-physiologists design, by the phrases in question, merely to indicate the fact, that living organized beings are composed of the same elementary *ponderable* ingredients, which, in other cases, enter into the composition of substances *purely chemical?* If so, their proposition is but a *truism*, to which every one must assent. Oxygen, carbon, hydrogen, and azote, which constitute the essential elements of animals and vegetables, form many compounds and parts of compounds exclusively chemical.

But if it be contended that those ingredients are brought together in the same way and held together by the same force, in living organic and dead chemical matter; or that real chemical affinity has any agency in the formation of living organized bodies, whether animal or vegetable, or the slightest influence in the performance of their functions,—the position is utterly groundless and untenable.

Still, therefore, I call for the interpretation of the phrases; and if it be not rendered, I shall feel authorized to consider the words, so mystically or unmeaningly employed, as nothing but a veil for the concealment of ignorance; or, which amounts to the same artifice, as a crafty substitution of *sound* for *sense*, and an attempt to delude the unthinking, by the agency of phrases neither understood, nor defined in their meaning, by those who utter, or those who hear them.

A few remarks on a passage or two extracted from Müller's "Elements of Physiology" shall close this article.

In page 418 of Bell's edition of that most able and instructive work, we find the following extraordinary sentence:

> "Substances which cannot be simply separated from the blood, since they do not pre-exist in it, but which, on the contrary, are newly produced from the proximate components of the blood, *by a chemical process*; such are the bile, *the semen*, the milk, *mucus*, &c.; these are called *secretions*."

I have pronounced this an extraordinary sentence, and such it unquestionably is; because its tendency is to fasten on us an extraordinary doctrine. If it be true, man is, *ab origine*, radically and essentially a *chemical product*. By a brief and correct analysis of the sentence, this position can be proved.

The semen masculinum, *one prime* and essential agent in the production of the living embryo, which, in time, becomes an adult, is, according to the foregoing extract, the result of a "*chemical* process." So is the "mucus" secreted by the ovarian vesicle of the female, which constitutes *the other* agent, or radical cause in the embryo-formation. Nor, as far as we know, is any third operative ponderable substance concerned in the work. By their action and influence on each other, the semen of the male and the ovarian mucus of the female give existence to the embryo, which is ultimately developed and moulded into an organized, living, and mature human being.

If this be true, then is man, with all his functions and attributes, as positively a chemical product as nitrate of potash, which is the issue of the mutual action of the two chemical substances, nitric acid and the oxide of potassium.

Now, it is obvious that these two substances, the male semen and the female mucus, are not to be regarded as *ultimate* products. They are means designed and fitted to effectuate a special end. In the formation of them, therefore, nature (I mean the Author of nature) had that end in view, and adapted them to its attainment. And it is an important end, being nothing less than the propagation and perpetuation of the human race.

But it is acknowledged by Dr. Roget, and other leading chemico-vitalists, that an essential and characteristic difference between chemical and vital products is, that the latter are always wisely and beneficially fitted for the accomplishment of some useful purpose; while the former are marked by no such aptitude. The following are the Doctor's words on this subject, some of which were quoted in my last number.

> "The phenomena of living beings have a totally different character from the changes which take place in inanimate matter. * * * Living nature is impressed with a character which at once raises it to a *higher order* among the objects of human intellect, and invests the science which regards it with a *more lofty and ennobling sentiment*. Life is peculiarly characterized by the manifestation of INTENTION. *Adaptation of means to an end is visible throughout*

> *the whole of this animated scene.* Express design is palpably discernible in every formation, in every arrangement, in every series of changes which this vast theatre of nature displays. And utility is the governing principle in all. * * * Thus, while the sciences of inorganic matter are founded on the relations of cause and effect, physiology takes cognizance more especially of *means to ends*, which the phenomena present to our view. Hence we obtain a new principle of arrangement among these phenomena; hence, also, arises a new source of interest, of a kind *very superior* to that which mere physical relations can ever inspire." (Pp. 15–17.)

According to this rule of judging, then, which I believe to be faultless, the two substances in question (the male semen and the female mucus) are vital products, even in opposition to the opinion of Müller.

On the following clause, extracted from the "Elements of Physiology" of the same distinguished writer, a similar comment may be correctly offered.

> "*The chemical process of secretion* is not at all understood. The simple problem to be solved is, how the secreting membranes can, at the same time, and from the same blood, nourish themselves; that is, attract analogous particles and add them to their own substance, and also secrete or eliminate non-analogous particles; for the secreted fluid is, in its chemical properties, wholly different from the secreting organ." (P. 444.)

Here, again, the process described includes a two-fold wise and beneficent design—to nourish the organ and maintain its vigor, and to *depurate the blood* and *maintain health.*

The process, therefore, which acts to these effects is *essentially vital;* a truth which I trust Professor Müller will yet acknowledge.

In bringing to a conclusion, for the present, these strictures upon the hypotheses of the chemico-physiological school, allow me to trouble you with a few facts, in addition to those already transmitted to you, at open war with the *Liebigean* hypothesis of *vital temperature*—that hypothesis which contends that every living organized body, whether animal or vegetable, possesses a temperature exactly proportioned to the amount of the oxygen it takes into its system, and of the carbon and hydrogen it consumes in its *corporeal stove and gas-burner*, by *actual combustion.*

To begin with what the Professor of Giessen seems to consider the most powerful argument in favor of his hypothesis—the vast and gluttonous amount of oily food and drink which the Esquimaux, the Samoyedes, the Kamschatcans, and other hypeborrean people, swallow, to introduce into their systems the requisite amount of *carbon* and *hydrogen;* and the abundant quantity of oxygen they inhale, to set fire to those *combustibles*, and evolve the immensity of caloric necessary to keep them warm during the intensity of their winter cold.

The insufficiency of this argument is palpable. Those northern savages gorge themselves with as much oleaginous matter, and inhale, in a given time, even more oxygen during their summers, than they do during their winters. Yet does the difference between the temperatures of those two seasons of the arctic year amount, if I mistake not, during a principal part of their duration, to but little, if any, less than a hundred degrees.

The reason why I say that the savages of the polar circle inhale more oxygen in their summer than in their winter months is, because, during the former, they take, perhaps, in hunting and fishing, twenty times more exercise than they do during the latter, a great proportion of which they devote to eating and sleeping. They, consequently, breathe more frequently and more fully during the summer. Nor is this all. They also breathe in the *open atmosphere*, where oxygen abounds.

Very different, however, is the case with them in the winter. During that season of surpassing cold they pass a great portion of their time, I say, in a state of drowsy gluttony and inaction, in their huts and caves, whose temperature is moderate, at least, if not actually *comfortable;* but whose atmosphere, instead of being rich in oxygen, is deeply surcharged and contaminated by carbonic acid, mingled with other foul and offensive exhalations from the lungs and skin.

In this situation, their acts of inspiration are neither full nor frequent; but, from their want of exercise, necessarily the reverse. Correspondingly limited, therefore, would be their inhalation of oxygen, did it even abound in the atmosphere *within* their air-tight dwellings in as high a degree as in that *without.* When we take into consideration, then, the copiously adulterated state of that atmosphere, we cannot escape the conviction, that the quantity of oxygen derived from it, by the savages who breathe it, is comparatively limited. And so, of course, are its effects on their systems. Nor are the savages of the north supplied very liberally with hydrogen, to aid in feeding the flame of their gas-burner. On the contrary, they are scantily supplied with it. They drink, as we are told, in the winter season, but very little water; and their oily food and drink contain, of hydrogen, but about *eleven-hundredths* of the whole amount of their elementary ingredients. Their stock of materials, then, to maintain a vestal fire in their bodies, is far from being abundant.

Nor is the evidence we derive from the history of the inhabitants of tropical Africa less pointedly and powerfully hostile to Professor Liebig's hypothesis. In the midst of a burning atmosphere, and under the immediate and cloudless path of the sun, those savages are, if possible, even more voraciously and boundlessly gluttonous than the inhabitants of the north. And much of their food is exceedingly fat and full of carbon. They drink water, moreover, in far greater abundance, and therefore swallow much more hydrogen than the hyperborean people; and, instead of close and crowded huts and caves, they live, by night as well as by day, almost exclusively under the canopy of the sky, and respire in a free and unadulterated atmosphere. Through the channels, therefore, of their lungs and alimentary canal, it cannot I think be questioned, that they receive into their systems as much, at least, if not more, of the elements of combustion, to feed and perpetuate their internal fires, than do the inhabitants of the arctic zone.

What disposition, then, is made of all the caloric thus evolved, to prevent it from urging to an inordinate height the temperature of the intratropical Africans? To this question the chemist will reply in his timeworn note of "PERSPIRATION, PERSPIRATION." But to a reply so flimsy and insufficient I shall not pause at present to rejoin.

Nor will I dwell on the groundless assertion of Professor Liebig, that birds and beasts of prey are more numerous and gluttonous in arctic than in tropical regions. Every schoolboy in zoology can correct the error. Had the Professor reflected, for a moment, on the never-failing aptitudes of nature, which everywhere present themselves to us, that act alone would have prevented his blunders. It would have taught him, that where *carrion* most abounds, *carrion eaters* are most wanted. But nature never fails to supply her own wants. And perhaps *twenty* dead and putrid carcasses of animals corrupt the atmosphere of the tropics, for every *single one* that produces a like effect on the atmosphere of the arctic circle. And probably in the same ratio, kites, vultures, jackalls, hyenas, and other devourers of carrion, abound.

Without troubling you with a strict analysis of the subject, I say fearlessly, and without reservation, that one or the other of the two following positions is true:

1. Either the celebrated experiments of Fordyce, Banks, Blagden, Duhamel, Tilset, and others, respecting the effects of a very high temperature of the atmosphere on the body of man, are *incorrectly reported;* or,

2. The human constitution has some sort of agency, other than that of *perspiration*, to render caloric latent, and protect itself from the effects of a highly heated body of air.

Those enlightened and intrepid experimenters remained for a considerable time, *unharmed and without any painful sense of* burning, in an atmosphere of heat sufficiently intense to BROIL *beefsteaks*, and *make water* BOIL. Nor is this all. Even *one* of them, by entering the room when thus heated, reduced its temperature, in a few minutes, to the extent of *thirteen degrees!* and another of them, to the extent of *twelve* degrees.

Can the perspirable matter of one human body do this? Can such an agent remove or render latent, in so short a time, a very large volume of caloric, most of it at the distance of several yards? No, no, no! The very conception of such an effect being produced by a cause so limited, and obviously so inapt, involves what I feel authorized to pronounce an *unsurpassed absurdity*. The result was essentially the product of *vitality*. That this is true, appears from the fact, that the resistance offered by each experimenter to the temperature of the atmosphere, and the influence he exercised in lowering that temperature, were in proportion to the constitutional vigor (I mean the amount of vitality), which he possessed.

As regards Fordyce, Banks, and Blagden, the chemists contend that the temperature of the bodies of those gentlemen was prevented from rising, in a *highly* heated atmosphere, by *perspiration*. For the following additional reason, this is believed to be a mistake.

The experimenters had three rooms, the atmospheres of which were heated to different degrees, the range of specified heat being from 85° to 260° of Fahrenheit. Of these, the gentlemen, according to their report, perspired to the extent of *copious sweating* only in the rooms whose temperatures were comparatively *low*. We are not, I think, informed by them that *sweat* flowed from them in a temperature higher than 119° or 120° Fahr. When in a temperature from 224° to 260° Fahr., instead of "*exhaling*," their persons became "condensing bodies."

Are we not, from this representation, authorized to believe that a very highly heated atmosphere made on the skins of the experimenters an impression so *unnatural*, not to say *deleterious*, as to prevent entirely its function of secretion?

Most unquestionably, had sweat poured from the bodies of the gentlemen in quantity proportioned to the heat which acted on the surfaces of their bodies, they would have recorded the fact. But instead of doing that, they declare themselves to have been converted into active and even powerful *condensers*. The reason seems plain. Compared to the surrounding atmosphere loaded with vapor, their bodies were actually *cold* (being lower in temperature by considerably upwards of 100° Fahr.), and their skins were rendered incapable of secreting. Far, therefore, from discharging anything *into* the atmosphere, they abstracted *caloric from* it, rendered that *imponderable* substance latent, and converted the vapor, around and in contact with them, into water, which ran in streams down their bodies.

In support of my suggestion that, under the influence of *excessive* temperature, the secretory action of the skin *may be*, and probably *is*, suspended, sundry plain and pertinent analogies may be adduced.

Inordinate pressure on the stomach prevents chymification; an intense glare of light suspends vision; sound inordinately loud, and powerful sound, such as the report of an adjacent cannon, produces deafness; a sapid substance, very highly stimulating, temporarily destroys taste; and an article extremely odorous, deadens for a time the function of smelling. In truth, the salutary action of any nerve, or set of nerves, is temporarily impaired or destroyed by an excess of impression.

Why, then, may not the secretory action of the skin, a process deeply and essentially under nervous influence, be also checked by a deleteriously powerful impression of heat? I propound the question, but cannot *to myself* satisfactorily answer it. I know not why such a cause may not be productive of such an effect. I am even much more inclined to believe that it is thus productive, than to search in vain for a reason why its action should lead to the opposite issue.

Spallanzani and Ingenhouse, I *know*, and, I *believe*, other able and accurate experimenters, assure us, that the carbonic acid gas, and its accompanying exhalations, adulterate more deeply and deleteriously a given quantity of atmospheric air, in a given time, in *hot* weather than in *cold*. According to the hypothesis of Liebig, the reverse of this should be true. Why? Because that writer asserts that a larger quantity of carbon and hydrogen is burnt *in* the human system, in cold weather, than in hot; and if so, the amount of the product of such burning thrown *out* of the system must be also greater, but is *less*. Hence the fallacy of Liebig's hypothesis.

Dreviranus, on the ground of his own experiments, asserts, that in an atmosphere at the temperature of 80½° Fahr., the honey-bee exhales *three times* as much carbonic acid gas as it does in an atmosphere at the temperature of 50½° of Fahr. How will Liebig and his followers account for this?

Müller informs us, that cold-blooded animals often consume, or in some way dispose of, in respiration, *three times* as much oxygen as they exhale of carbon. This fact alone comes down on the Giessenian theory with the destructiveness of a thunderbolt.

We are again told by Müller, that by man carbonic acid gas is exhaled in greater abundance when the barometer is *low* than when it is *high*. To explain this, in conformity to their hypothesis, will puzzle even the grand master himself. Am I asked, why I say so? I answer; because, when the barometer is low, the quantity of oxygen in a given volume of atmospheric air is comparatively small; and when it is high, the proportion is larger. In *direct*, and not in *inverse* proportion, therefore, to these different volumes of oxygen, should be the production and exhalation of carbonic acid gas. Once more.

Sir Benjamin Brodie ascertained, by experiments, whose accuracy is not now held in doubt, that a rabbit full-grown and healthy, expires every half hour, 28·22 cubic inches of carbonic acid gas. And when the same rabbit is destroyed by poison or by bisecting its medulla oblongata, and artificial respiration is kept up in it, a quantity of the same gas, varying from 20·24 to 25·55 and 28·27 cubic inches, continues to be exhaled; yet the temperature of the animal falls, in the course of an hour, from six to eight degrees. Some experimenters assert that under the influence of artificial respiration, the temperature of the animal falls with greater rapidity than when that process is not employed. At any rate the experiments by Sir Benjamin, if skilfully and accurately performed, and correctly reported, satisfactorily show that when the *vitality* of an animal is extinguished, its temperature falls, notwithstanding the production of carbonic acid *in*, and its elimination *from*, its system, by artificial respiration.

Facts like the foregoing I could continue to detail almost interminably. And each of them would be alike fatal to the wild, dashing, and ill-concocted hypothesis of Liebig and his followers.

I presume it is not unknown to you, that the celebrated veteran Professor Hare, of Philadelphia, one of the ablest and most experienced and accurate chemists of the present day, or indeed of any day, has entered his protest against some of the writings of Liebig, proclaiming them, in his own strong and decided language, to be in "various instances, bold, hasty, inconsiderate, and inaccurate." And he, in further animadversion, likens that far-famed professor and ambitious innovator to a "military leader, who, after marching through a country with drums beating and colors flying, should have his trumpets loudly sounded, as if a complete conquest had been effected, while leaving behind him many fortresses, of which the knowledge had prevented more cautious and considerate leaders from having previously undertaken the same expedition." And the truly great chemist of Philadelphia further virtually declares, that "the philosopher of Giessen has deluded himself and the readers of his essays with the prospect of an elucidation of the mysteries of animal and vegetable physiology, *which it is beyond the present state of chemistry to afford*."

But, notwithstanding these condemnatory strictures on some of the notions set forth in "Animal Chemistry," Professor Hare has bestowed, on other views contained in that work, commendations which, coming from such high authority, ought to be amply satisfactory to the judgment, and flattering to the ambition of the distinguished German. A remark or two on the attractiveness of chemistry, and its irresistible influence over the human mind, shall close this long and desultory letter.*

Chemistry is perhaps the most *fascinating*, and certainly the most *delusive* and positively *hallucinative* of all existing branches of science. It plunges its votaries, I mean, into more numerous, deeper, and more irretrievable errors and blunders, than any other sort of knowledge—or rather than any other sort of pursuit—for real knowledge can, in no event, be the parent of error. Nor is this all that may be correctly said of chemistry. Since its commencement in *alchemy*, a thousand years ago (for such *was* its commencement), it has produced, among its ardent and enthusiastic cultivators, a greater amount of *scientific monomania* than all other forms of study.

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* Part of this article was transmitted in the form of a letter.—*Editor.*

The whole tenor of their lives, and the entire manifestations of their actions and writings proved, that all notorious alchemists were scientific monomaniacs. Their pretensions to a knowledge of the dark and inscrutable secrets of nature, united to their sleepless and exhausting researches after the philosopher's stone, the panacea or universal remedy, and the alkahest or universal solvent, with other objects of investigation equally visionary and beyond the reach of human means, afford, in my opinion, proof conclusive of the truth of this charge. Nothing short of a form of madness could have urged them, for a life-time, to the *phantom-chase* in which they consumed their days and nights, and wasted their fortunes, and by means of which they lived in withering toil and penury, and died in want.

Nor are some of the freaks of fancy of modern chemistry, *the unrestrainable child*, less lawless and extravagant than those of *alchemy, the venerable but bewildered parent.*

Toward the close of last century, a member of the Royal Society of London (a high-toned chemist of the time) submitted to the consideration of that learned body a paper, the object of which was, to prove that HUMAN THOUGHT is a *chemical emanation* from the *human brain.*

The production having been read, a motion, *apparently serious*, but *really ironical*, was made, directing that it should be referred to the committee of publication. The vote being called for, but one member replied affirmatively, and he was the luckless author of the communication. Deeply offended by an issue so unexpected, the gentleman unceremoniously repossessed himself of his paper, and, sternly declaring that it should never be offered to the society again until the opening of a "new and brighter era," when the members should be capable of appreciating its merit, he bore it indignantly from the hall of the institution. Whether the writings of the Professor of Giessen are regarded by his followers as the morning-star, the rising sun, or the full meridian of that "era" of glory, I am not informed.

Near forty years ago, a distinguished and well-known professor of chemistry declared, in my presence, in my own house, that by a chemical process *he could make a human being!*

About the same time, a book was published in Philadelphia, by a gentleman with whom I was intimate, in which it was openly asserted that the time would soon arrive when, by the arrangement of a given kind of matter, in a given way, and the passage through it of a stream of electricity, "*a man might be crystallized!*" But the period of *electrical* man-making has not yet reached us.

N. B. Hitherto it has not been in my power to make a thorough and satisfactory examination of Dr. Carpenter's "Principles of Human Physiology." It is my purpose, however, to do so as soon as may be convenient to me. Should I, therefore, in my perusal of the work, discover anything having a claim to further and special animadversion, the readers of the Journal will probably hear from me again on the subject.

Art. II.—*On the Relative Proportion of Centenarians, of Deaf and Dumb, of Blind, and of Insane, in the Races of European and African Origin, as shown by the Censuses of the United States.* By the Editor.

In vol. I., p. 151 of this Journal, we had an article entitled "*Vital Statistics furnished by the Sixth Census of the United States, bearing upon the Question of the Unity of the Human Race.*" The object of this paper was to show the fallacy of an attempt made in two medical cotemporaries to prove, from the single fact that the census gives a much higher ratio of centenarians to our African than to our European race, that the two people constitute *distinct species*, and that their offspring, the mulatto, on the *assumed* ground of having a very short mean duration of life, is a *hybrid!* The subject of the relative number of deaf and dumb, blind, and insane, in the two races, as well as the relative ratios among the slaves and free colored, was also brought under notice. Now, as additional light has been thrown upon these subjects in the interim, the interest that they possess induces us to return to the inquiry. And first as respects the

Deaf and Dumb, Blind, and Insane.

In all civilized countries, the statistics of insanity have, in recent years, been an object of the highest interest, not only to physicians, to political economists, and philanthropists, but to men of general science; but all investigations heretofore conducted by individuals or associations, as medical societies, or committees of legislatures, have failed of their object. As it proved impracticable to operate thus with concerted action over any large district, or to determine, as the basis of calculation, the numbers of the people or of the particular class, among whom the insane were found, these investigations have always proved partial and incomplete. Under these circumstances, its inclusion among the objects of the United States census was hailed as the promise of the development of truth which had previously defied all researches; for here were presented two varieties of the human family, embracing seventeen millions of souls. In the census of 1830, the number of deaf and dumb, and blind, was alone computed; but the last decennial enumeration, which included the insane also, was anxiously waited for, confident that the field cultivated, the widest that has ever been thus surveyed, would yield the most abundant harvest. The marshals, each in his own district, were instructed to ascertain, in the enumeration of the white and colored inhabitants, the number of those "who are insane or idiots," both in the white and colored races. In the words of the act providing for the taking of the sixth census:

> "The said enumeration shall further distinguish the number of those free white persons included in such enumeration, who are deaf and dumb, under the age of fourteen years; and those of the age of fourteen years and under twenty-five; and of the age of twenty-five and upward; and shall further distinguish the number of those free white persons included in such enumeration who are blind; and also in like manner of those who are insane or idiots, distinguishing further such of the insane and idiots as are a public charge.
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> "The said enumeration shall further distinguish the number of those free colored and other colored persons, included in the foregoing, who are deaf and dumb, without regard to age, and those who are insane and idiots, distinguishing further such of the insane and idiots as are a public charge."

In the census of 1830, the ratio of whites, deaf and dumb, was 1 in 1,964, and of the colored population, 1 in 3,134; and of blind, the ratio of the former was 1 in 2,651, and of the latter, 1 in 1,584. In this inverse result in the two races, the excess is about equal, the deaf and dumb whites being a little more than three to two, and the excess of colored blind being in about the same ratio.

According to the census of 1840,

The ratio of the white deaf and dumb was	1 in 2,123
" colored "	1 in 2,933
The ratio of the white blind was	1 in 2,821
" colored "	1 in 1,509
The ratio of the white insane was	1 in 977
" colored "	1 in 978

In both the decennial enumerations, the ratio of white deaf and dumb is the higher, and the same comparative result is afforded among the colored blind; but the ratio of white deaf and dumb has diminished slightly in the latter census, while that of the colored population has increased about equally; and as regards the blind, a similar ratio of white decrease and of colored increase, is shown. These results seem to admit of ready explanation on the ground of white immigration and colored emigration, since neither the blind nor the deaf and dumb, are often found moving from country to country.

Of these three terrible inflictions, it is remarked by Professor Tucker[*] that the one which is congenital is the more prevalent among the whites; while the higher ratio of blind among the colored population, may be reasonably referred to their severer labor and greater exposure, to their greater improvidence, and less advantage of medical aid.

The proportions of the insane and idiotic in the two races, it is seen above, are identical, the ratio being somewhat more than 1 in 1000; and as regards the patients of this description, *at public and at private charge*, both classes of the population seem to have the same proportion. Those at public charge in both are about twenty per cent. of the number at private charge.

As regards the diversities among the ratios of the white insane in the different States, they no doubt admit of explanation on the ground of emigration; for as insane persons, as stated above, rarely emigrate, their ratio should be lowest in those States, as New England, which lose by emigration, and *vice versâ* as in the Western States.

As respects the ratios of the colored insane, however, so extraordinary is the difference among the States, that the truth of the data themselves has been called in question. The development that among the colored population of the Northern States there is one lunatic for every 144·5 persons, while the ratio in the same class inhabiting the Southern States, is but 1 in 1558, was wholly unexpected. Besides, in some of the New England States, the ratio was extraordinarily high. In Maine, it was as high as 1 in 14·4; in New Hampshire 1 in 28·2; and in Massachusetts 1 in 43·3. Consequently, it has been announced to the world, that, according to the experience of the United States, in a population consisting of 83·1 per cent. of whites, 14·6 of slaves, and 2·3 of free colored, slavery, compared with freedom, is tenfold more favorable as respects its influence in the production of insanity. Indeed, this comparative exemption of the slave from insanity, contrasted with the tenfold liability of the free black, has been seized upon by journals devoted to the peculiar institutions of the Southern States, as a powerful argument. In the Southern Literary Messenger, the consolation is held out to the slaves that, notwithstanding governed by another man's will, their minds, unlike their self-governing brethren, are free from the desolating visitation of insanity.

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[*] Progress of the United States in Population and Wealth in Fifty Years, as exhibited by the Decennial Census. By George Tucker, Professor of Moral Philosophy and Political Economy in the University of Virginia.

It has been, however, shown by an inquiry extended through the free states generally, that colored insane are frequently reported from towns which are wholly destitute of that class of inhabitants. Mr. Jarvis* has traced this fact to more than 150 towns in twelve of the free States and one territory. Besides, he alleges that in many towns the whole colored population are registered as insane, while in others, two-thirds, one-half, or one-fourth, are reported to be thus afflicted. He shows that in Worcester, Massachusetts, in which town, according to the census, there are 133 colored lunatics and idiots, supported at public charge, the white patients in the State Hospital have, by some unfortunate mistake, been substituted ; and that, by this single mistake, the colored lunatics of Massachusetts have been multiplied three-fold ; and that, were this error corrected, the proportion of colored insane belonging to the State, would be reduced from 1 in 43 to 1 in 129.

Mr. Jarvis further shows that there is reason to believe that similar errors respecting the insanity of the colored, also vitiate the results of the insanity of the whites. He shows a disagreement between the census and the report of the Secretary of Massachusetts ; for, while the former shows but 627 lunatics and idiots, "of all colors," supported at the public cost, the latter gives 887 pauper lunatics and idiots. So in reference to the State of New York, the superintendents report 1058 pauper lunatics, while the census marshals register but 739. And in Connecticut, the number of lunatics and idiots, as determined by the State Medical Society several years ago, he says, was more than twice as large as that reported by the last census. As regards the blind, and the deaf and dumb, he alleges that the census is equally inaccurate among the negroes of the Northern States.

In the Report of the Trustees of the Maine Insane Hospital (Nov. 30, 1843), to the Governor and Council of that State, we have similar evidence of the incorrectness of the last Census, which returns 94 colored insane, being 1 to 14 of the whole colored population. Now according to this Report, "it appears that fifty-six of them are returned from the following towns, not one of which, according to the census itself, contains a single colored inhabitant;—Newfield, 5 ; Danville, 1 ; Otisfield, 2 ; Scarborough, 6 ; Limerick, 4 ; Dixfield, 5 ; Gilead, 1 ; Hebron, 1 ; Norway, 6 ; Peru, 3 ; Edgecomb, 1 ; Jefferson, 1 ; Webster, 2 ; Industry, 3 ; Bradley, 1 ; Dexter, 1 ; Swanville, 1 ; Unity, 1 ; Hartland, 2 ; Madison, 1 ; New Portland, 1 ; Ripley, 1 ; St. Albans, 3 ; Alexander, 1 ; Baring,

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* Vide American Journal of the Medical Sciences for January, 1844. *Article—Insanity among the Colored Population of the Free States.* By Edward Jarvis of Dorchester, Mass.

1; Calais, 1. Seventeen are returned from the following towns, in only one of which does the number of colored people equal that of the colored lunatics:—Limington, 2; Biddeford, 2; Dresden, 6; Leeds, 1; Monmouth, 1; Dixmont, 1; Hope, 2; Fairfield, 2. The remaining twenty-one are returned from the following towns, whose aggregate colored population, is only 197:—Nobleborough, 4; Topsham, 2; Warren, 3; Wiscasset, 1; China, 1; Gardiner, 1; Hallowell, 2; Readfield, 1; Waterville, 1; Oldtown, 1; Bucksport, 3; Houlton, 1."

Whether these errors originated with the thousand marshals instructed, each in his own district, to inquire from house to house relative to the requirements of the sixth enumeration, or whether they are due to the carelessness of the clerks by whom they were "*corrected at the Department of State*," it is not given us to determine; but one fact is sufficiently obvious, which is, that, taking the whole Union, the results afforded by the data, at the last two censuses, upon the blind, and the deaf and dumb, and also the results as regards the insane and idiots, which are limited to the last enumeration, confirm one another. As it is only on the basis of the data given by large numbers, thus allowing errors to compensate one another, that the doctrine of averages can claim our attention, it follows that such a limited number of colored insane, as 19 in New Hampshire, 13 in Vermont, 13 in Rhode Island, 44 in Connecticut, 73 in New Jersey, and 28 in Delaware, cannot, by any means, justify any conclusion. This is statistics on a small scale, which is equivalent only to the merest chance; for in so limited a number of cases, it is just as easy to fall upon singularities as upon facts approximating an average character. It is only when the peculiarities and coincidences among a myriad of facts, as has been said on a previous occasion, have been reduced to their average proportion by the opposite peculiarities and coincidences of another myriad of facts, that the application of numbers to the elucidation of the natural history of man in health and disease, is allowable; and then it constitutes in reality the mathematics of medical science.

Thus much it has been deemed necessary to say in vindication of the general correctness of our six censuses; and, admitting to the fullest extent the errors pointed out by Mr. Jarvis, it does not follow that the higher ratio of the colored insane in New England may not be referred to causes unconnected with freedom and slavery. For instance, as the insane very rarely migrate, and as the free male negroes have a kind of migratory passion, it is no ways surprising if we find, in some towns, having but two or three colored persons, all insane; and again, as the whole constitution of the black is adapted to a tropical region, the difference of the prevalence of insanity may be ascribed to the agency of our austere climate, with even greater propriety than to the condition of freedom. Should the enumeration of 1850 require a discrimination between the free and the slave in the Southern States, as regards the insane and idiots, we shall have better data, in view of the sameness of surrounding circumstances, for the determination of this interesting and important question.

In appearing as the advocate of the general correctness of our censuses, it would seem necessary to say in explanation, that we have for months past been engaged in investigations which have required a critical examination of all the censuses from 1790 to 1840; and we are happy in being able to aver that they afford confirmation of one another in a thousand different ways. These researches have likewise enlightened us further upon the subject of the

Relative Proportion of Centenarians in the two Races.

The absurdity of the deduction which maintains, that the two races constitute distinct species and that their offspring is a hybrid, was perhaps sufficiently exposed in the article referred to at the beginning of this paper; but, as the argument there made was based chiefly upon the great laws of the natural history of man, which prove the unity of the human family, it will be well to give some additional facts, based more particularly on the observation of vital statistics.*

It is an undisputed fact, as proved by the censuses, that the colored race, by virtue of some peculiar tenacity of life, far outnumbers the whites in centenarians. A comparison of the whites and the colored race, at the age of 100 and upward, in the census of 1830, shows that the chances of attaining this great longevity are forty times as great with the free colored as the whites, and with the slaves, eleven times as great; and in 1840, the disproportion, though somewhat diminished, shows nine slaves and thirty free colored centenarians to one white one.

The centenarians of each sex, in each of the three classes, are exhibited in the following table:

	WHITES.	FREE COLORED.	SLAVES.
	Males. Females.	Males. Females.	Males. Females.
1830	301 + 238 = 539	269 + 386 = 655	748 + 676 = 1424
1840	476 + 315 = 791	286 + 361 = 647	753 + 580 = 1333

In the census of 1830, the white centenarians are equal to 1 in 19,529, the free colored 1 in 487, and the slave 1 in 1410; and in the last census these ratios stand respectively, 1 in 17,938, 1 in 597, and 1 in 1866.

But it was before remarked, in Vol. I., that the representations of aged blacks, relative to the period of their birth, must be received with many grains of allowance; for the two reasons, that, in the first place, they have no family registers, and, in the second, that among the slaves past middle life, there is a prevailing disposition to exaggerate the real age, from the circumstance that it, at the same time, flatters self-love, and furnishes both a claim to charity and kindness, and an excuse for a relaxation of labor.

Now it is our design to show that this mere tenacity of life is so unimportant in the estimate of the mean duration of man's life, that it has been vastly magnified by our modern philosophers, who make it even the groundwork of a distinct species. Dr. Southwood Smith, for example, has adopted a division of life into the epochs of infancy, childhood, boyhood, adolescence, manhood, and old age; all these periods being distinguished from one another by external characters, which are but the signs of different internal physiological conditions. All these epochs of man's life differ physiologically as much in physical strength as in mental power. Regarding infancy as terminated at three years of age, a decade of years, he says, brings childhood to a close; and this age of 13 years, mortality having steadily decreased during the intervening period, is the maximum of viability. The period of adolescence is next brought to a close by another decade, during which the mortality as steadily advances to its maximum. A third decade sees the adolescent changed into the perfect man, the mortality again diminishing; and now, during another decade and a half, there is a slow rise of mortality. Thus we find a term of 23 years, between the period of birth and that of adult age; and between this last epoch and the period when life just begins to decline from its meridian, another term of 24 years. These epochs, which are based upon the celebrated tables presented to Parliament by John Finlaison, Esq., the Actuary of the National Debt Office, would seem to have their foundation in nature; for it is during these intervals that certain physiological changes occur, upon which the characteristics of these epochs depend. Now, according to Dr. Smith, it is only the interval between the adult age and that of decrepitude which is capable of being extended; and when this extension of human life does occur, he avers that it cannot be due to a protraction either of the period which precedes or of that which succeeds the age of mature manhood.

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* The writers here referred to are—

Vital Statistics of Negroes and Mulattoes. By PHILANTHROPIST. *Boston Medical and Surgical Journal,* for October 12th, 1842.

The Mulatto a Hybrid—probable Extermination of the two Races, if the Whites and Blacks are allowed to Intermarry. By J. C. NOTT, M.D., Mobile. *American Journal of Medical Sciences,* for July, 1843.

Without attempting to illustrate this position any further, we will proceed to show its application to the white and colored races in the United States. According to the census of the United States, as shown by us in our previous article, and since then by the calculations of Professor Tucker, before referred to, the proportion of the whites remaining alive at 55 years of age is somewhat greater than that of the colored race; and as the whites have consequently a more extended period of mature manhood, the greater number of the colored race at the age of 100 is attributable to a mere tenacity of life, which seems unsusceptible of explanation. This general fact is referred to in the Report on the Sanitary Condition of the Laboring Population of Great Britain, as follows:

> "Some constitutions are found to resist vaccine matter. Here and there, constitutions appear which resist all the noxious influences by which they are surrounded, and attain extreme old age. Not unfrequently we find the existence of these solitary individuals referred to as proofs of the general salubrity of the very circumstances under which generations have fallen and been buried around them. It is a singular fact, as yet unexplained, that the greatest proportion of centenarians are of the laboring classes; and that instances of them have from time to time appeared amidst the crowded populations in some of the worst neighborhoods of London, where the average duration of life is the lowest. It is remarked by M. Mallet, that in Geneva extreme old age has not participated in the prolongation of life which has taken place in the less advanced ages. In the periods of from 60 to 70 years of age, the amelioration is inconsiderable; after 70 years, there is no perceptible improvement; after 80 years, the aged have, indeed, a little less probability of life at the present time than they had in the 16th century. Centenarians, who were not rare in the 16th and 17th centuries, now disappear; during the last 27 years, Geneva has not produced a single one."

But to comprehend, in its fullest extent, this unexpected result, it is necessary to give a general view of the vital statistics of Geneva for the last three centuries. This is furnished in the *Annales d'Hygiène, Tome* xvii., in a most valuable paper of 168 pages, entitled, "*Récherches His-*

toriques et Statistiques sur la Population de Genève, son Mouvement annuel et sa Longévité, depuis le xvi^e *siècle jusqu'à nos jours* (1549–1833). *Par* Edouard Mallet, *Docteur en droit, membre, etc.*" It must suffice, however, to give general results only so far as will serve to illustrate the relations in which centenarians stand relative to the other laws of population and mortality. The *probable* and the *mean* durations of life in that city have increased in the following ratios :

PERIODS.	PROBABLE LIFE.				MEAN DURATION OF LIFE.			
	Years.	Months.	Days.	Propor.	Years.	Months.	Days.	Propor.
1560—1600	8	7	26	100	21	2	20	100
1600—1700	13	3	16	153	25	8	2	120
1700—1750	27	9	13	321	32	7	22	153
1750—1800	31	3	5	361	34	6	11	162
1800—1813	40	8	0	470	38	6	0	181
1814—1833	45	0	29	521	40	8	7	191

It is thus seen that the probability of life to every individual born, was, in less than three centuries, doubled more than five times ;[*] and yet, directly in the face of this extraordinary fact, we have the equally extraordinary result, that with the *prolongation of the mean term of life, the number of centenarians have gradually diminished*, as has been shown in the extract just made. But we will give the result in Dr. Mallet's own words :

> " Cependant la vieillesse n'a point participé à la prolongation de vie qui a eu lieu dans les âges moins avancés. De 60 à 70 ans l'amelioration est très faible : à 70 ans elle est nulle. Depuis 80 ans, le vieillard a un peu moins de probabilité de vie dans l'époque actuelle qu'il n'en avait au xvi^e siècle. *Les centenaires, qui n'étaient pas rares aux* xvi^e *et* xvii^e *siècles, disparaissent maintenant : depuis* 27 *ans Genève n'en a pas produit un seul. Loin de marcher vers une carrière patriarcale, la vieillesse a reculé et perdu du terrain.*"

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[*] As the probable life might be readily confounded with its mean duration by those who have given little attention to vital statistics, both have been included in the above table. While the mean duration of life indicates the average age at death of a certain class or community included in the average, the probable duration differs wholly from this. The probable life at birth, for example, is in general 25 years; that is, at the age of 25, the number of children born at the same time will have been reduced to a moiety. Now, if we fix on any age, and observe at what age this number decreases to one-half, we have the *probable* term of life, because, as one-half have died, the probability of being alive is equal to the probability of being dead. If we find, for instance, that 1000 individuals are living at the age of 40, and that of these, at the age of 63, only 500 remain, the inference is, that at 40, the probable life, according to that table, is 23 years; or, as writers on annuities and reversions express it, it is an even wager whether he will be alive or dead at that period.

As an example of the gross errors to be found in our most prominent American writers on hygiène as connected with vital statistics, it will suffice to refer to the pervading one, that the mean duration of life has doubled in London within the last century. This deduction is based upon the fact, that a century ago the mortality in London was 1 in 20, while at this time it is only 1 in 40; but here the error consists in regarding the proportions of deaths as exponents of the average ages of deaths. Instead, however, of a duplication of the mean duration of life within a century, it is shown from a calculation based on the average ages themselves, that it has increased only about one-fifth; that is, from 25 years and 1 month, to 29 years and 10 months.

Thus far, adds Dr. Mallet, we have seen no population rich in centenarians, save those in which the mean duration of life is short.

This same work, *Annal. d'Hyg.*, *Tome* xv., contains a contribution by Sir Francis D'Ivernois, entitled, "*Sur les Centenaires et sur le Conséquences a tirer de leur Nombre plus ou moins grand.*" This writer expresses not a little surprise that, according to the census of 1830, there should be 539 white centenarians in a population of 10,526,248; but, had he given his attention to the colored centenarians, and had he at the same time made a proper calculation of their ratio, the surprise of Sir Francis would surely have known no bounds. Regarding us as one of the old stationary populations of Europe, he forgot (as it is found necessary in contrasting the chances of longevity in two countries, to make allowance for difference of natural increase), to take into consideration the fact that our population has doubled every 25 years since our earliest colonization—a result which is proved by the censuses since 1790, and by other data prior to that time. Hence, instead of comparing the centenarians of a particular census with the total population of the same, it is necessary to make the comparison with the total population at the period when they were born. Or, to make the proposition more practicable, to ascertain the chances of attaining the age of 50, in 1840, it is requisite to compare the number of this class with the total population of 1790. Thus we find the following relative ratios:

In 1830, the white centenarians were—	Males,	301	
	Females,	238	
			539, equal to 1 in 19,529.
" Free colored "	Males,	269	
	Females,	386	
			655, equal to 1 in 487.
" Slave "	Males,	748	
	Females,	676	
			1424, equal to 1 in 1,410.
In 1840, the white centenarians were—	Males,	476	
	Females,	315	
			791, equal to 1 in 17,939.
" Free colored "	Males,	286	
	Females,	361	
			647, equal to 1 in 597.
" Slave "	Males,	753	
	Females,	580	
			1333, equal to 1 in 1,866.

Now, this may answer as a relative, but not as an absolute, comparison. The whole colored population, which in 1840 numbered 2,873,458, consisted in 1790 of but 698,682; and if we reduce it in the same proportion for fifty years more, when the centenarians of 1840 were born, and then divide the total colored population of 1740 with the total centenarians of 1840, it will be seen that about 1 in every 85 colored individuals born became a centenarian!!

Now, had Sir Francis D'Ivernois made this proper calculation, he would have had still more cause to be merry at our expense, at the idea of so many old persons hanging over the tomb, without being able to tumble into it, as well as at the reputed high ratio of centenarians in Russia. From a consideration of the laws above developed at Geneva, but more especially from his observation at Montreaux, where during the memory of man there has been no instance of a centenarian, and from

1754 to 1830 but 28 nonagenarians, two of whom reached the age of 96 years, Sir Francis arrives at the conclusion, that an *unusual number of centenarians, so far from being an indication of the vitality of the masses, is rather a proof to the contrary.* Yet we find that every country which has a high ratio of centenarians, as Russia, for example, ignorantly makes it the subject of its own glorification, in the way of an irrefragable proof of health and general longevity!

This subject was, indeed, taken up as long ago as 1797, and discussed in the *Bibliothèque Britannique de Genève*, by Dr. Odier. In comparing the mortuary registers of Philadelphia and Geneva, he discovered that three-fourths of the individuals born in the former city were already dead at the age of 43, which he declared is seven years sooner than it occurred in Europe; but he became aware, at the same time, that of those Philadelphians who passed this point, a great number reached a very advanced age. Hence he drew the conclusion: "Le grand nombre de centenaires ne prouve pas qu'on jouisse d'une plus grande probabilité de vie. AU CONTRAIRE." A high ratio of centenarians does not imply an equally great probability of life; *but the contrary.*

By Mr. Rickman of England it is likewise asserted that "*the proportion of existing centenarians is no valid indication of national health or longevity.*"

The celebrated calculator, John Finlayson, Esq., says that "when in statistical statements we see many instances set down of old people passing their 100th year, and some dying at much more advanced periods, there is reason to suspect very great error from the well-known propensity of octogenarians, and the impatience of their relatives to exaggerate their age, and to persist in the same story, until by the decay of their faculties they believe it themselves."

As it is now, so was it also in the days of David, the sacred poet and the prophet king. "The days of our years are threescore years and ten; and if by reason of strength, they be fourscore years, yet is their strength labor and sorrow; *for it is soon cut off, and we fly away.*"

Among the Greeks and Romans, history gives us many examples of great longevity; but these, too, are mere isolated cases, which have no direct relation with the mean duration of life, but appear to be such as are frequently found in the most insalubrious localities, and in periods of man's history when population is in its worst state.

By Pliny the younger, it is said that the country lying between the Appenines and the Po, contained, according to the census taken under the reign of Vespasian, 124 male centenarians; but as he gives no account of the population, nor of the deaths, nor whether slaves or females were included in the enumeration, he has given us information without much knowledge. It is a curious fact that Lucian devoted a treatise to the subject of the enumeration of distinguished individuals of antiquity, who attained the age of 80—100 years; and these, which are divided into the three great classes of kings and generals, the Greek philosophers, and lastly the historians, poets, and other writers, present those great names which are familiar to the classic scholar. But these data also stand isolated.

Hence, in view of the preceding facts and argument, we see why it is that, in comparing the sanitory condition of different nations, the knowledge alone of the absolute mortality or morbility will not suffice. Experience proves that, although these may be the same in two nations, yet the effect on the national strength and resources will depend on the relative ratios in the periods of childhood, manhood, and old age. As the first and the last classes are mere consumers, while the second alone consists of producers, we see of what little importance children and centenarians are, in estimating the national strength.

We will lastly allude to the extraordinary fact, as noticed by all writers on centenarians, that they are generally, if not universally, found in that class of society which gives the lowest mean duration of life. M. Corbeaux, who made researches upon the English and Scotch centenarians, says—"*The recorded instances of unusual longevity are, almost without exception, confined to old soldiers who have escaped the worst chances of war, and to peasants whose circumstances placed them but a single degree above want of the common necessaries.*" In all Belgium, on the first of January, 1831, there were but sixteen centenarians, all of whom, according to Quetelet and Smets, belonged to the same class of the population, *y vivaient dans des conditions très médiocres.*

This then is another powerful argument showing that a high ratio of centenarians has no relation with the general longevity of a people. This is well illustrated in the deaths in Liverpool, for 1840:

No. of Deaths.		Average age of Deceased.
137	Gentry and professional persons, &c.	35 years.
1,738	Tradesmen and their families, ...	22 "
5,597	Laborers, mechanics, and servants, &c. . .	15 "

The time-honored opinion that poverty is conducive to longevity—that the rich are less favored by the blessings of health than the poor—finds no confirmation in statistical investigations. That the hardy and contented poor man is exempt from the diseases of the wealthy and luxurious, is but a poetic fiction. Irresistible evidence of this truth is contained in every document, by which the rate of mortality among large numbers can be correctly ascertained. Hence, taking the whole population of a country, wealth may be assumed as a true measure of happiness, and consequently of health; and indigence as the measure of unhappiness, and consequently of disease. This comparison, according to M. Villermé, often shows a ratio of mortality, in the latter, twice as high; and taking the entire French population, the same comparison exhibits a duration of life among the poor, twelve years and a half shorter. Consequently, while the probability of life at birth, in the one case, is but thirty years, in the other class, it is extended to forty-two.

Thus it is seen that centenarians do not belong to that class, which has the longest average age of life.

This is a subject that would admit of much more extension, did our limits allow. Reference may be here made to the supposition of Professor Tucker and others, that a large proportion of the colored centenarians may have received through an African birth, constitutions more favorable to longevity than the average of the American-born slaves, who occupy, as regards the mass, the least salubrious portion of the Union. It is also thought possible by Professor T., that an undue proportion of the colored centenarians may be of the mixed breed, who, it is further supposed, may, on this account, be more tenacious of life than either ancestral race. As regards the respective mortality and longevity of the two classes of colored population, there is a marked difference in favor of the free colored division. By the census of 1820, the proportional numbers of the two classes, at the ages under 45, present little variation; but beyond that age, the centesimal proportion of the free colored is 15·6 per cent., while that of the slaves is but 9·6. By the last two decennial enumerations, we find the same equality up to 36; but subsequently to this age, the centesimal proportion of the free colored augments in an increasing ratio. At these two censuses, the proportions at the age of 36 and upward were as follows:

	FREE COLORED.		SLAVES.	
	Males.	Females.	Males.	Females.
1830	22·19	22·95	15 91	15·46
1840	22·55	23 26	15·83	15 27

Attention may here be called to the harmony of these results, which speak loudly in favor of the exactness of our censuses. To assign satisfactory causes for this difference in the two classes, were no easy matter. As a much larger proportion of the free than of the slaves, in the opinion of Professor Tucker, have been crossed in blood with the whites, he thinks that this *mixed* breed may, on this account, possess certain advantages of temperament conducive to longevity. This opinion is here introduced merely as a funny contrast to that which maintains that the Caucasian and the Negro races are proved by this difference of longevity to be distinct species, and that the offspring of the two, *in consequence of the shortness of his life*, but who, according to Professor Tucker, exhibits this *peculiar tenacity of life in the highest degree*, is a hybrid!

It is thus seen from the preceding researches, as regards centenarians, that they are most apt to be found in the worst periods of man's history, as respects the condition of population, and often too in the most insalubrious localities; that they abound in countries having a low mean duration of life, as in Geneva, in the sixteenth century, and that they decrease and finally disappear in proportion as the mean term of man's existence is extended by the improvement of his physical condition; and lastly, that they are always found in that class of society, which has the lowest mean duration of life. Hence it follows conclusively that a high proportion of centenarians does not depend upon a protracted mean duration of life in a community, nor is a great proportion of them to be regarded as an indication of national health or general longevity.

It is thus satisfactorily shown that of all attempts hitherto made by a certain class of philosophers to establish a distinction of species between the Caucasian and African, the present one, based upon the ratio of centenarians, is truly the most absurd. It also teaches the moral that he, who would strike a blow at one of the great principles of civilisation, not to say of the Christian religion, should first, at least through self-respect, make himself acquainted with what is known upon the subject.

Despite the barriers of demarcation between man and man, which pride and ignorance have ever, and will ever, continue to set up, all investigation into man's organization and his natural history, will continue still further to confirm the conclusion, that the entire human race have been made upon one model. If the doctrine of the unity of the human family requires one column more to sustain the noble superstructure, then will the censuses of the United States, which demonstrate a similarity of vital laws in the two races, as regards the various phenomena connected with natural increase, complete the triumph.

ART. III.—*On the Treatment of Fractures of the Clavicle.* By ABM. L. COX, M. D., of New York.

THE difficulty of obtaining a perfect control of this fracture, by the different bandages now in use, is very generally admitted by practical surgeons. This, however, is no less certain, than that the great principles on which such control is attempted, are well ascertained and universally admitted. The action of the sterno-mastoid and great pectoral muscles, holds the sternal fragment in its proper position, while the scapular portion falls with the weight of the arm or by the action of the muscles, and is then drawn inwardly, so that the inner portion overrides the outer, and the position of the shoulder is altered from its natural state, to one more inward, downward, and forward.

The indications of treatment are, therefore, obviously to extend, elevate, and hold back the shoulder. For this purpose, surgeons formerly resorted to a figure-of-eight bandage, applied over the back between the shoulders—a plan of treatment liable to the objection, that it does not meet all the proper indications of the case, and does not insure a perfect restoration of the functions and configuration of the fractured shoulder.

Dessault's bandages have also been generally used, and are designed with reference to the great and acknowledged principles of the case; but it is very generally admitted that these bandages are not as successfully used as is desirable, and many surgeons have consequently returned to the old figure-of-eight bandage in preference to them. Even our schools, if I am correctly informed, teach their abandonment; a fact to be regretted, as they certainly have several decided advantages over the more simple means now generally superseding them.

Of these, the first is the advantage of a direct and perfect extension of the fractured bone, effected by the cushion in the axilla, and the transverse turns of the roller over the arm of the fractured side, round the body, and under the armpit of the sound side. This important point of proper extension is well attained and kept by this part of Dessault's management.

The great defect, which, as far as I have been able to learn, is pretty generally admitted against the bandages in question, exists in the last bandage, the object of which is to retain the fractured shoulder in a sufficiently elevated posture.

Dessault's direction for its application is, to commence with a roller nine yards long, at the axilla of the sound side, to bring it in front of the chest over the shoulder of the fractured side, down behind the arm to the elbow, then to bring it in front of the chest to the point of beginning, then over the back from the axilla to the fractured shoulder, crossing it to the front of the arm, under the elbow, and so obliquely over the back again to the axilla of the sound side, and in this way till the roller is applied.

That this plan should fail in keeping the fractured shoulder and arm in a proper elevation, is, I think, obvious *à priori*, and unfortunately it is found to be so in practice.

The axilla is below the shoulder of the opposite side, and the bandage, therefore, exerts a direct influence to depress it just in proportion to the strictness of its application. If, indeed, the turns which are made under the elbow of the affected side could be brought over the shoulder of the sound side, thus making the sound shoulder a *point d'appui* from which to suspend the elbow and arm of the fractured side, there would be some influence exerted toward the end in view. But when we reflect that this turn would support the elbow only by an oblique application, and that the bandage, from its yielding to the weight of the arm, could afford little or no support, thus applied, it needs but a moment's reflection to perceive that the end which the surgeon has in view is completely lost by passing the turns of the roller *under the axilla* of the unaffected side.

What has been said will, I trust, serve to prepare the reader for the suggestion which it is the object of this paper to make in the modification of Dessault's bandage.

Instead of making the axilla of the sound side the point of support of the shoulder of the fractured side, I propose that this point of support be sought close to the neck, on the side of the fracture. The roller may start from the sound axilla, pass over the other shoulder, down behind the arm and under the elbow, then upward over the fracture, obliquely across the back, and under the axilla of the sound side; thus making a figure-of-eight, by which the elbow will be drawn directly upward, and the point at which the bandage crosses on the shoulder being properly secured by pins, will be retained permanently close to the neck by means of the turns which pass under the sound axilla. This arrangement seems to possess all the properties at which the last bandage of Dessault is aimed, and of which it undoubtedly fails.

But one case has occurred to me whereby I could test the soundness of my reasoning by an appeal to practical results. This happened in an elderly woman, who fell from a chair in attempting to wind the kitchen clock. Dessault's plan failed, after careful and patient repetition; so also did the old figure-of-eight bandage, and several other modifications of them which successively suggested themselves to my mind in the management of her case.

I made the application, which I have attempted to describe above, with the best results. It retains the shoulder in its proper position, and the bones in perfect coaptation, and is at the same time comfortable to the patient.

It is well to commence by preparing the arm of the affected side with a roller, carefully and accurately applied. This precaution has the double advantage of guarding the arm from the pressure of the turns of the first roller, and also of furnishing the means of fastening the last application to the elbow by means of pins.

If it shall be thought worthy of trial by the profession generally, I believe it will be found to be an improvement; and I therefore feel it to be a duty to make the suggestion, and submit it to the judgment of my medical brethren. No one can be more aware than myself of the very simple nature of the alteration in Dessault's bandage, that I have ventured to propose; but if it should be found on trial to be better adapted to attain the very ends, and to apply the very principles of practice, which Dessault taught, it will doubtless be justly appreciated by the profession.

ART. IV.—*Extracts from the Recorded Proceedings of the New York Medical and Surgical Society.*

THIS society has now been in existence some ten years. Formerly their proceedings met the public eye; but, within the last two or three years, nothing has been published under its auspices. Such societies have two objects in view, the one is the prosecution of medical science, and the other, the promotion of social communion; and both these purposes are highly worthy of commendation.

The following extracts from the secretary's records, extend over perhaps the last six months; and they are here inserted without reference to the particular times of meeting.

Case of Melanotic Tumor occupying the left Labium Pudendi. By Horace Green, M. D.—Respecting this case, Dr. G. gave the following details:

The lady, Mrs. H. C., whose case is here appended, is 32 years of age; of a strumous diathesis, and of an exceedingly nervous temperament. For several years, in earlier life, she had suffered from swellings of the absorbent glands of the neck, and other characteristic symptoms of scrofula. She had also endured much from neuralgic pains, which, occupying different parts of the body, had proved extremely obstinate and severe.

These affections, however, had disappeared under appropriate treatment, and, for several years past, her general health had been greatly improved. Eight years ago, soon after the birth of her first and only child, she discovered a small tumor, occupying the left labium pudendi. At first, it occasioned but little uneasiness, and for one or two years succeeding its discovery, it was supposed to remain nearly stationary. After this period, however, its further development became manifest, and this increased size was attended with the most distressing neuralgic pains; coming on at irregular periods, and occupying, not only the labium, where the tumor was seated, but extending down the whole length of the limb, on the affected side. Still, from the delicate nature of her complaint, and from the fear of an operation, she was prevented from making known her condition in regard to the tumor, to any physician. During the past year, however, the above symptoms had greatly increased, and the limb, moreover, of the affected side, became partially paralyzed, so as to render walking difficult, and, at times, impossible. This increased severity of the symptoms, together with the mental anxiety of the patient, began to affect, seriously, her general health, and she was induced to submit her case for examination.

At the request of her husband, Dr. Green visited her the 9th of August, 1843, and, on making the necessary examination, he ascertained the position and extent of the tumor. It was of an oval form, occupying the whole of the labium, and extending, in its longest diameter, from the ramus of the pubes, downward and backward to the tuberosity of the ischium; and projecting, laterally, in such a manner, as to carry the opening of the vagina nearly an inch to the right of the median line. The tumor was hard and unyielding to pressure; so much so that Dr. G.'s first impression was, that it was of a bony character; but, on passing the first and second fingers into the vagina, and making the attempt to draw the tumor outward, the points of the fingers could be insinuated between it and the rami of the pubes and ischium; and its disconnection with these bones was thus established. Under these circumstances, the propriety and practicability of removing the tumor by an operation, was evident; and Dr. G. so stated the case to the patient and her friends.

They were prepared for, and acquiesced in, this decision, but requested, on account of some family arrangements, that the operation might be delayed a few weeks.

Assisted by his friend, Dr. A. L. Cox (who, on seeing the case, confirmed Dr. G.'s opinion as to the propriety of removing the tumor), he performed the operation on the 16th of September.

The patient was placed upon the table, as in the operation for lithotomy, with the limbs separated and flexed upon the body. By introducing the two forefingers into the vagina, Dr. C. was enabled to retain the tumor in a firm position, while Dr. G. made an incision, parallel with the edge, and over the whole extent of the labium. On proceeding with the operation, several superficial branches of the pudic artery were divided, which required ligatures to be placed upon them. The whole of the tumor was then carefully dissected out; and, after the bleeding had subsided, the parts were brought together, and the edges of the wound retained by a suitable number of stitches.

The operation, although not unusually tedious, was extremely painful; yet it was borne by the patient with a great degree of firmness and resolution.

On examining the tumor, it was found to be encysted, and evidently of the melanotic species. Its contents were an inorganized mass, of a dark brown, or a dull bistre color, and resembling very much, as secretions of a melanotic character are said to do by writers on this subject, the pigment of the choroid.

For a day or two after the operation, it became necessary to remove the patient's water with the catheter. After this period, no unfavorable event occurred. The parts healed kindly; the natural action returned to the limb, and, in a few weeks from the operation, the patient was able to walk from her door to her carriage with the aid of an attendant's arm.

The distressing neuralgic pains have not returned since the tumor was removed.

Case of Neuralgia of the Lower Jaw, relieved by a Surgical Operation. By Horace Green, M. D.—The following case, said Dr. G., is interesting, inasmuch as it establishes the fact that mechanical irritation may excite periodical neuralgia, which will resist the ordinary remedies so long as the local irritant remains.

In May, 1837, Dr. G. had placed under his care, Miss G. R., aged 12 years, of New Jersey, whose father had brought her to this city for medical advice. She was suffering, at the time, from a neuralgic affection of the lower jaw; it was intense in its character, beyond anything of the kind Dr. G. had ever seen. The paroxysms occurred several times in the twenty-four hours, and were of such severity as to render her, while they continued, frantic from pain. From a full, robust girl, she was reduced to a mere skeleton, and her general health was greatly impaired.

The history of her case, as Dr. G. learned it from her parents, was as follows:

Four months previous to the above period, when in good health, she had had extracted the second molar tooth of the lower jaw. The cavity closed, and the gum healed up as usual; but two weeks after the tooth was removed, she had an attack of severe neuralgic pain, which was referred to the spot whence the tooth had been extracted. It passed off, however, but returned the next day, at the same hour, with increased severity; and, for two or three weeks, each morning, the pain recurred, at nine o'clock, and continued from one to two hours with the utmost severity. After this period the paroxysms increased in frequency—returning several times in the twenty-four hours, and each time being attended with an equal amount of suffering. Soon after the commencement of the complaint, the family physician was called in, and the ordinary remedies, in such cases, employed, but without, in any degree, affording relief. Subsequently other physicians were called in consultation; and, during the three months preceding her visit to the city, the young lady had undergone every form of treatment employed in these affections; but no method that could be devised, had been attended with any success. On learning this history of the case, Dr. G. imagined, at once, that there might be some local cause, as a splinter of the bone, or an induration, or some other irritant that was operating as the original cause of the complaint. On examining the jaw, his suspicions were confirmed, by finding a small, hard tumor, occupying the place where the tooth had been extracted. It was proposed, at once, that this induration should be removed. But the parents of the patient, not being able to comprehend how so small a tumor could occasion such intense suffering, requested that the operation might be postponed a few days, and other means employed; but, as no relief whatever was obtained by the remedies administered, they consented, on the second day, that the operation should be performed.

By means of a small scalpel, Dr. G. succeeded in detaching readily the tumor from the edges of the alveoli, to which it seemed connected; and with the point of the knife, he excavated the top of the socket. To this cavity he applied a pencil of nitrate of silver, which immediately arrested the bleeding.

Although one hour before the operation, the patient had passed through a paroxysm of pain of such intensity that it became necessary for her father to confine her in his arms, to prevent her from doing injury to herself, yet, after the operation, there was no return of the paroxysms; and, at the end of a week, the patient returned to her home, in the country, relieved of her agony; and, even in that time, her general health had much improved.

Cholera Infantum, fatal, January 27th, 1844, by John S. Vandervoort, M.D. Dr. V. related the following case: J——, aged seven weeks, apparently a healthy child, though much troubled with flatulent colic, was found on the morning of January 27th, at six o'clock, in the following condition. He was lying on his mother's arm perfectly still, with his eyes wide open, and apparently intently fixed upon her; his skin was bathed in profuse perspiration; pulse scarcely, if at all, perceptible; respiration inconceivably quick, like the panting of an overrun dog on a hot summer's day; a sharp, dry cough, similar to that observed in the laryngitis of adults, and a peculiar guttural sound which was particularly noticed when he cried; transient pain in the bowels, especially before an evacuation, with almost incessant purging of a thin whey-like fluid, interspersed with flocculi. For some days his bowels had been rather often purged, but the quantity which passed from him was not great, not enough to invite unusual attention to it. At seven o'clock, whilst lying on his mother's lap, he was observed to have spasms of the upper extremities; these spasms returned frequently, and were accompanied by a distortion of the mouth; there was also slight coma. An attempt was made to get the child to swallow some milk and water, but deglutition seemed to be wholly arrested. As the dissolution of the child was momentarily expected, no attempt was made to relieve it; but, after the lapse of another hour, as he seemed a little more comfortable, his feet were placed in a warm mustard-bath, and turpentine applied freely to the throat and chest. After the bath, the spasms came on less frequently, and he lay quietly, with his eyes closed. The pulse was now perceptible; it was not remarkably quick, but very small; the respiration was less hurried; the purging continued almost incessantly; his feet and hands were rather cold before and soon after the bath. In this condition he remained during several successive hours. He was now put, for a few minutes, into a pail of warm water; whilst there, he faintly cried twice, making the same shrill noise as before noticed. A few moments after he was taken from the bath he expired, without the slightest struggle.

Post mortem examination sixteen hours afterwards. This was made by Dr. William C. Roberts, to whom we are indebted for the following account of it.

On removing the sternum, the thymus gland appeared lying upon the roots of the trachea and great vessels, and overlapping the base of the heart. It was of a pale color, very thick (five-eighths of an inch), and weighed 3 drs. 55 grs. The heart was healthy; foramen ovale large, but wholly impervious; and the ductus arteriosus reduced to an imperfect chord. The lungs were crepitant throughout; in spots only very slightly congested. The liver was softened, congested, and variegated by the admixture of a chocolate brown with a lighter brown, approaching the buff or yellow, so as to give a distinctly marbled appearance to the parenchyma of the viscus. The gall-bladder was very small, and contained a small quantity of rather pale, viscid fluid.

The intestines were contracted and contained a large quantity of thin, whey-like fluid, of a sour smell, mixed with little yellow flocculi in great abundance. Beginning at the rectum and ascending to the stomach, the glands of Brunner, in the large intestines, were found in immense quantities, very large, and presenting the appearance of white, hard elevations, with a black central spot-orifice. The mucous membrane here was pale but not softened; in the ileum it was extremely so, and several of Peyer's plates were very distinct, presenting the appearance of long, white, elevated surfaces, sprinkled with minute, dark points. In a few instances capillary vessels ran toward and ramified around the plates. The mucous membrane of the stomach was pale and rather soft; every other viscus was healthy.

Uterine Hydatids, by John H. Griscom, M.D.—In August, 1843, Dr. G. was consulted by Mrs. J. E——, of Macon, Georgia, for a hemorrhage from the uterus, of three months duration. She is twenty-three years of age; has a child nineteen months old; said at the time of Dr. G.'s visit she was not pregnant, and had a miscarriage of something in February last; but the ejected mass had no perceptible organization, that Dr. G. could learn.

She attributes the hemorrhage to sudden exertion in lifting her child when taken suddenly ill. At his second or third visit, Dr. G. made an examination of the abdomen, which he found much enlarged, being about the size and form of the uterus at the sixth month of gestation. The os tincæ was open sufficiently to admit a finger. The uterine souffle was clear at the lower part of the abdomen, over the pubis, but no fœtal pulsation could be distinguished at any point. He gave it as his opinion that she was pregnant with *something*, and that the hemorrhage proceeded either from a partial separation of the placenta or from its being placed over the os uteri.

On the 1st of September, Dr. G. was sent for early. He found her evidently in labor, with severe pains, accompanied with faintness, but a good pulse. No hemorrhage for four or five days past. The os tincæ dilated readily, and the placenta was found presenting, so that no judgment as to the nature of the uterine contents could yet be formed. In four or five hours a piece of the placenta was thrown off, which opened the way for the contents to be expelled. It proved to be about three or four pints of *hydatids*, variously sized, averaging that of a hickory nut. They came away in detached portions, and were followed by the placenta, which appeared of the full term size.

A singular affection attended the labor and the first few days of convalescence. This was a most distressing pain at the inside of the fingers and thumbs of both hands, and part of the palms, especially the inner part. The skin had a reddish or purplish appearance. The feeling was described as similar to that of the parts when they had been *mashed*, or when frozen and held to the fire. It lasted five or six days, and gradually subsided; the various applications which were suggested rather aggravated than meliorated the suffering.

Case of Elephantiasis Scroti, by F. Campbell Stewart, M.D.—This case of elephantiasis scroti, which Dr. S. saw at the Bellevue Hospital, is only of six months duration. It is accompanied with some considerable hypertrophy of the penis. The patient is an Irishman, who has been in this country about ten months only; the disease is not far advanced, and it appears to be stationary. It is attributed by the patient to the fact of his having bathed several times last summer, while in a state of perspiration, in the river St. Lawrence, on the banks of which he was laboring in the harvest.

Extraordinary Case of Vicarious Menstruation, by Dr. F. C. Stewart, M.D.—Margaret Campbell, the patient thus affected, has had her arm swollen to an enormous size at five separate and distinct epochs, and always after an attack of dysmenorrhœa. The swelling has invariably continued until the restoration of the catamenial discharge; immediately after which it begins to subside, and continues gradually to diminish until the arm is restored to its normal condition. It is now seven years since she first was troubled with it, and she has been as long as two years without having it to recur. Almost every variety of emmenagogue treatment has been pursued, and generally with very undecided effect. The arm has now been swollen since the month of September [this was on Nov. 18], and is so large as to measure fifteen and a-half inches round the elbow, where it is the largest; the fingers and hand are likewise much enlarged and disfigured. The general health of the girl is good, and she experiences but trifling pain in her arm. She states that she is married, but has never borne children. The first invasion of the accident is attributed to her having put her hand into very cold water immediately after using some that was hot. Having her menses at the time, this imprudence checked them, and in a short time afterward the arm began to swell. So serious was the malady supposed to be by the surgeons who first saw it, that they are said to have recommended amputation.

[Since the foregoing statement was made to the society, we learn from Dr. Stewart that he has succeeded in restoring the menstrual discharge, by means of two setons, the one placed in the thigh, and the other in the hypogastric region; and that the arm has again returned to almost its natural size.]

An Anomalous Case of Disease, by H. D. Bulkley, M.D.—The patient referred to was a little girl, between two and three years of age, of rather a feeble constitution, but who had never needed Dr. B.'s services until the past spring, when she suffered from functional derangements of the digestive organs of different kinds, mostly connected with torpor and irregularity of the biliary secretions. Dr. B. had prescribed for her but a few times, when she went to Boston with her mother, to spend the summer. While there and in the vicinity, she was at times quite ill, as Dr. B. heard, so much so at one time, that her life was despaired of; and at one period she had a severe attack of dysentery. She was brought back to the city in the early part of October, when she was well enough to be running about the house, though exceedingly pale; and Dr. B. was not called to see her until about a week after her return, when, in consequence of merely tripping as she had just reached her mother, she fell forward on her stomach and bowels. This was immediately followed by vomiting, and an excessive degree of prostration; such a degree, indeed, as made Dr. B. apprehensive for three or four days that she would sink under it. By means of careful nursing, however, with the aid of gentle stimulants and nourishing diet, she gradually revived to such a degree as to take notice of those about her, and afterwards to exhibit more or less interest in her amusements and toys; and at one time, she was able to bear her own weight for a moment, but was constantly in arms, or in her crib or cradle. She would sometimes continue to improve so much for several days as to lead to the hope of her recovery, and then would sink again. She was perfectly anæmic, and her condition seemed clearly to indicate the use of tonics; but she could hardly bear any kind of tonic or stimulant, even in the smallest quantity, for more than a day or two. The skin was generally soft and inclining to be moist—pulse generally from 130 to 140, occasionally as low as 120. Her bowels were in remarkably good order most of the time; the stools generally consistent and figured, and of good color. The liver was very much enlarged, extending, perhaps, three inches below the margin of the ribs, and presenting considerable prominence there, and also in the epigastric region.

This is an imperfect sketch of the general history, &c., of the case. The most singular part of it, however, consisted of tumors on different parts of the cranium, which were first noticed three or four weeks before her death. The one first discovered, and which was the smallest, was near the vertex, and was oblong in shape, and about two-thirds of an inch in its largest diameter, and one-third of an inch in its shortest diameter, with an elevation of two or three lines. Another one of a large size, say one and a fourth inches by half an inch, was situated about half an inch in front of the left ear, and parallel with it. On the right side, there was an elevation two or three inches in length, and nearly an inch in breadth, extending horizontally along the upper edge of the squamous portion of the temporal bone, and thence above the ear and in front of it. There was also another elevation between one and two inches in length and of an oval shape, on another part of the right side. There was no discoloration of the integument over the tumors, nor was there apparently any pain or pressure, although the irritability of the child was such that this could not be determined on with certainty. They were firm to the touch, and contained no fluid. They were very analogous in shape and general appearance to syphilitic nodes; but the case was one of absolute certainty that they could have no origin of this kind. It ought, perhaps, to be remarked that the anterior fontanelle was nearly as open as at birth. What the nature of these swellings was, Dr. B. was unable to say, in a patient of this age, never having met with a similar case, nor had Dr. Delafield, who saw the patient in consultation with him. There was, besides, a tumor on the end of the nose, which gradually increased to the size of a pea, which presented a pale and rather livid appearance, and seemed tense, as though it contained some viscid fluid, and which was said to have broken and discharged some fluid after the body had been removed to Boston for burial. This was also something which Dr. B. had never seen before; and he regretted very much his inability to learn the state of the internal organs after death; but permission to examine the body could not be obtained.

This case, like many others which occur to the profession, said Dr. B., though extremely interesting to the individual, is of but little use to his brethren, as it does not present distinctness enough to render it of any practical value.

Extraordinary Case of Mental Aberration, by James Macdonald, M.D. —Dr. Macdonald stated that he saw, during the month of July, in consultation with Dr. Griswold, a boy aged four years, with light hair and eyes, of ordinary stature and proportions, and a well-formed head, whose mind had been singularly disordered for about a year.

His organization was more delicate than that of the other children of his family, and his parents had always thought his intellectual developments comparatively precocious. He talked more fluently and distinctly than others at the same age. He had scarlatina when two years old, and recovered without any unpleasant consequences. When three years old, he was seized with "crying fits," as his mother called them, which, as nearly as could be ascertained, arose from pain in the head. These, after the lapse of two months, were followed by loss of speech and of intelligence. He did not understand what was said to him; he contracted bad habits—passed urine and fæces involuntarily—became exceedingly jealous of other children, scarcely ever seeing without assaulting or beating them; appetite for meat voracious; would snatch it from the fire while it was undergoing the process of cooking. In fine, he became perfectly ungovernable, and could not be controlled either by kindness or coercion. His animal propensities reigned supreme. His head was unnaturally hot, his pulse quick, his tongue coated, his skin sallow. During most of the time he slept indifferently. Treatment—calomel and other cathartics, and an issue in the nape of his neck. Under this treatment he has improved. He now sleeps well; has become quite docile and manageable; comprehends what is said to him, recognizes persons, and begins again to utter articulate sounds.

Case of Spina Bifida. By Dr. White.—During the month of August last, Dr. White visited a child of Mr. I——, while on a visit to the country. The child was eight months old, and of healthy appearance. His attention was directed to a tumor occupying the sacral region, about the size of a man's fist. At first he was somewhat in doubt as to the character of the tumor; but at the suggestion of his father (Dr. White of Hudson), he tested its translucidity with a light. Finding it filled with serum, he concluded it was a case of Spina Bifida. A puncture of a valvular form was made, and about a gill of clear serum escaped. For a day or two after the operation, the child appeared indisposed, and had occasional spasms. It soon, however, regained its usual health, and the sac again filled with serum.

Dr. White recommended an occasional repetition of the operation, with compression; but he was subsequently informed that the parents are opposed to any further treatment.

Case of extensive Injury of the Leg, resulting in Gangrene, by A. G. Thompson, Jr., M.D.—Dr. Thompson read as follows: On the 10th of November, 1843, Mr. Josephus Brockaway, aged 50, dentist, of Albany, while in the act of stepping from one of the Brooklyn Ferry boats, at Fulton slip, New York, about 7 o'clock in the evening, missed his footing and fell between the bridge and vessel, by which means the left thigh, from the knee-joint to the pelvis, was jammed, and the femur fractured. He was immediately extricated from his perilous situation and taken to the Ferry House, bleeding considerably. Doctor A. G. Thompson was sent for and arrived within ten minutes after the accident. A tourniquet, composed of a twisted handkerchief, was applied to restrain the hemorrhage, and the gentleman conveyed to his lodgings, No. 84 Broadway. He was carried to his room under the direction of Dr. Thompson; and being found much prostrated, the pulse being scarcely perceptible, hands and feet cold, brandy toddy was administered. A messenger was sent after Dr. A. Sidney Doane, who arrived at 9 P.M., with Dr. Willard Parker, Professor of Surgery in the College of Physicians and Surgeons. Previous to the arrival of these gentlemen, about three ounces of brandy, and 25 drops tinct. opii, had been given by Dr. Thompson. The injured limb was then examined; the femur found fractured in its inferior third, the muscles and skin on the inner and posterior parts of the thigh extensively bruised and jammed, so as to present to the touch a jelly-like feeling, increased by the effused blood. There was an opening in the popliteal space of sufficient size to admit the extremity of the index finger, from which the hemorrhage had occurred. The leg and foot were cold and insensible, proving the existence of extensive injury to the nerve and artery. On consultation, amputation of the thigh was considered absolutely necessary, no hope being entertained of saving a limb where such extensive injury to the muscles and bloodvessels was evident. The extreme prostration of Mr. Brockaway precluded the idea of immediate amputation. It was, therefore, unanimously decided to continue the administration of stimulants, with laudanum, during the night, and to endeavor by those means to aid nature in bringing on reaction, before proceeding to operate. The injured limb was placed in a double inclined splint, and the patient made as comfortable as possible in his condition.

Saturday morning, Nov. 11, 9½ o'clock. Mr. Brockaway has passed an uncomfortable night. The brandy has been administered as freely as was deemed necessary by Dr. J. G. Candee, who remained with him. Two hundred drops of laudanum were given during the night, to relieve the agonizing pain of the injured limb. Has urinated. Pulse 140, and very feeble; skin moist and rather clammy.

Drs. Doane and Thompson, Professors Parker and Robert Watts, visited the patient; and on consultation, it was concluded that there was not as yet sufficient reaction to justify amputation: the operation was postponed until 2½ P.M. Stimulants and arrow root to be given.

2½, P.M. Patient lies in the same condition as in the morning. The operation was again postponed until Sunday morning.

7, P.M. Drs. Doane and Thompson found the patient still much prostrated; pulse very feeble, 140. The limb was examined and found swollen—the cellular tissue of the thigh infiltrated with air. The brandy and opiates were ordered to be continued, with the addition of chicken tea and gelatin.

Sunday, 10 A.M., Nov. 12. Has passed a more comfortable night; pulse 135, feeble, small. Limb more swollen; air more distinct: foot and leg cold. The condition of the patient was considered as very critical; it would seem as though life was kept up only by the administration of the most potent stimulants and most nourishing diet. It was thought that in the absence of reaction, an operation would be extremely hazardous, as it was doubted whether the patient could support it: and in case he did, whether the necessary reaction would ensue to prevent his sinking. The prognosis was considered extremely unfavorable, with or without an operation. Stimulants and arrow root continued.

Sunday, 6, P.M. Has complained much during the day of pain in the injured thigh, but is now easier. The following pills were ordered, two every three hours:

Carb. Ammoniæ, ʒi.,
Pulv. Gum Opii, gr. viij, in 16 pills.

Brandy to be continued as heretofore.

Monday, Nov. 13, 9, A.M. Has rested tolerably; pulse 135; skin clammy; has urinated freely. During the night took a pint of brandy. Swelling of thigh same as yesterday. Leg and foot of injured side cold. Continue treatment.

2, P.M. Pulse 140; complains of stupidity from opium and brandy. Ordered chloric ether, ʒj. every two hours, and wine to be substituted for brandy in arrow root. Discontinue pills.

6½, P.M. Pulse 138; skin more dry: feels quite comfortable and finds the wine and ether to agree with him.

Tuesday, Nov. 14, 9½, A.M. Has passed a comfortable night; pulse 128, fuller and stronger than since the accident, showing the first evidence of healthy reaction. The leg of the injured side presents a lead color from the knee downward; on the inside of the thigh there is a large, dark-colored, gangrenous "bulle," extending from the knee upward 5 inches; swelling about the same; fluctuation and air very marked throughout the thigh. As there is every appearance of extensive sloughing, it was deemed most advisable to leave the case to nature, until the probable extent of gangrene should be known. Directed an injection of wine and arrow root to relieve bowels; continue wine and ether as before.

7, P.M. Bowels have been moved. On examination a line of demarcation is visible about one inch below the patella, extending around the limb to the opening in the popliteal space. A small puncture was made by Dr. Parker on the inside of the thigh into the gangrenous "bulle," which gave exit to a quantity of fetid gas and blood. Ordered chloride soda to be applied.

Wednesday, Nov. 15, 9, A.M. Drs. Doane and Thompson, having visited Mr. Brockaway, learn that he has passed an uncomfortable night. Milk punch was ordered instead of wine and arrow root. Pills resumed.

12, M. Dr. Parker enlarged the opening made yesterday, extending it upward through the gangrenous "bulle" five inches, and another, three inches in extent, was made on the outer side of the thigh. Lint, dipped in a mixture of chloride of soda and water, was applied to the incisions. The chloric ether was directed to be given every three hours, and an enema was ordered. Milk punch, &c., as before.

Thursday, Nov. 16, 12 o'clock. Has slept well: pulse 120, fuller and stronger than heretofore. Enema has operated; swelling of thigh diminished. Ether every four hours. Dressings were removed and fresh ones applied. Leg is perfectly gangrenous.

Friday, Nov. 17, 9, A.M. Has slept well during latter part of the night. Had, during the night, 1½ grs. opium and 9 grs. carb. ammon. Dressings were removed; swelling is diminishing.

Nov. 18. Pulse 126. Dr. Parker removed the gangrenous leg at the knee-joint, with but little pain and without any hemorrhage. The gangrene has extended on the under side of the thigh, a distance of three inches above the popliteal space. The muscles are sloughing slowly. The limb was dressed with lint wet with chlor. sodæ.

Sunday, 9, A.M. Pulse 120. The odor of limb very offensive; swelling of thigh less than yesterday: re-applied dressings.

Monday, Nov. 20. Pulse 118; granulations appearing.

Tuesday. Pulse 118; granulations increasing.

Wednesday. Pulse 116; applied yeast poultice.

Thursday. The yeast poultice has cleaned the limb so as to show the extent of the sloughs. The skin on the inner side of the thigh has separated, leaving bare the subjacent muscles. The adductors are, as it were, dissected out so completely as to admit the introduction of the finger to the bone.

Friday to Tuesday, Nov. 28. The poultices with the addition of charcoal, were continued. The sloughs have all separated on the inside of the thigh. On the under side, there appears to be considerable to come away. It was deemed advisable to remove the fractured end of the femur, which was done by making an incision across the anterior surface of the thigh, commencing at the slough on the outside, extending just behind the patella to the inner sloughing surface, and cutting from without downward and inward. By this the fracture was brought to view, and the inferior extremity of the femur removed without difficulty. The bone was found fractured down to the condyles. The extremity of the femur was entirely covered with granulations, and appeared perfectly smooth. It was deemed advisable not to interfere with the process of nature, as she appeared to be working admirably. The pain was not great, and no important vessels were divided, not two ounces of blood being lost. Dressings of limb were then applied.

Wednesday, Nov. 29. Is comfortable—has suffered somewhat from pain during the night. Fresh dressings were applied by Dr. Thompson.

Thursday. Adhesive straps were put around the thigh, and a bandage to approximate the muscles. Patient is doing well; granulations are increasing.

Friday. Limb was dressed this morning; most of the sloughs have separated. The pus is more healthy in its appearance. Lint, smeared with simple cerate, was applied to the healthy granulations, and a bandage to cover the whole stump.

Saturday. Stump is looking better; was again dressed as yesterday.

Sunday, Dec. 3. The pus is straw-colored; the surface of the stump looks remarkably well. Dressings re-applied.

On the 4th December, Mr. Brockaway left the city for Albany, where he was attended to by Dr. A. March. Dr. Thompson has since understood that, on January 14th, he was well enough to go to church.

A Case of Rupture of the Uterus. By John H. Griscom, M. D.—Dr. G. was sent for by Dr. Nichols, on the 3d of September, at half past 1 P. M., to see with him a case of obstetrics, in the person of Mrs. Nelson. Dr. N. stated, on Dr. G.'s arrival, that she had had slight pains all the previous night, but that she had not sent for him until 8 A. M. He found the head presenting, low under the pubis, and movable; the labor pains moderate, occurring in regular intervals; and the woman apparently in good spirits and strength. In about an hour and a half after his arrival, say at 10 o'clock, the pains ceased, having been *gradually diminishing* for some time. The head remained in the position described, the efforts of the uterus having had no effect upon it. He waited patiently for a return of the pains, till Dr. G. was sent for, who found the patient on her back, with the head and shoulders well raised, the countenance pale and rather anxious, pulse 160, small, but with a degree of tension. On laying the hand upon the abdomen, it was found so exceedingly tender to the touch, as to render a full examination almost impracticable. A peculiarity was, however, observed in the position of the uterus, i. e., it appeared to be thrown forward much more than is usual at the fundus, and to be of smaller size, and more distinctly perceptible to the feel, than is common before delivery. The fœtal head was in the position before stated, and there it had been for several hours. The condition of the patient was such as to render a speedy delivery urgent, and the forceps were consequently employed with the least possible delay; but after they were fixed, the strongest efforts were insufficient to move the head from its position against the pubis, even with the additional aid of the single blade introduced under the arch. While making these efforts, upon laying his hand upon the abdomen to aid the removal of the child by pressure above, Dr. G. discovered at the left side a limb of the child projecting through the uterus, and lying in contact with the abdominal parietes. The terrible nature of the case, and the cause of the suspension of the pains, were now both at once made apparent. Renewed efforts were made to extract the child with the forceps, but this proved hopeless in consequence of their slipping; and as immediate delivery was absolutely necessary, turning was resorted to, which was speedily effected by Dr. Nichols.

The feet were grasped in the abdomen, outside the uterus, and the fœtus was extracted with the placenta attached, but too late to save the mother, who expired while the head was passing through the vagina.

The rupture was upon the left side, involving the fundus; and from the gradual subsidence of the pains, it must have been one of the cases described by Ramsbotham, as commencing with a small opening, and gradually enlarging as the labor continued. There was no sudden cessation of the pains, nor was there any complaint by the patient of something giving way, nor indeed of anything else, except general pain and vomiting, by which the nature of the case could at once have been determined, or even suspected.

Self-Propelling Power of the Blood. By Horaee Green, M. D.—Opposite opinions, remarked Dr. G., are still entertained by physiologists on this subject. Treviranus, Oesterreicher, Wolff, and several other microscopists, declare, that "the blood is endued with the power of self-propulsion," which they suppose to be exerted in the capillaries, during life, independently of the heart's action, and to continue after the latter has ceased; while, on the other hand, Baer, Wedemeyer, and, more recently, Müller, deny as positively the existence of a self-propelling power in the blood.

Having been engaged of late in making some microscopic observations upon the blood and other animal fluids, this subject, said Dr. Green, among others, had engaged his attention; and he supposed it might not be uninteresting to the Society to hear the result of some experiments which have been directed to this point.

Müller, who denies the existence of a power in the blood, independent of the heart's action, allows that there are two conditions under which the blood in the capillaries of a transparent part, separated from the body, may still be seen in motion by means of the microscope. One, where the blood continues to flow from divided vessels—the escape of the blood from the openings of these divided trunks imparting or causing a motion of the blood in the minute vessels toward the openings in the larger ones. The second condition under which motion is perceptible, is, when the direct rays of the sun are allowed to fall on a moist part separated from the body. The surface of the part thus becomes dry and wrinkled, and this constriction causes a rapid emptying of the capillary vessels, which, together with the effect of illumination by the direct rays of the sun, produces a flickering appearance; and in this way he imagines opposing observers have been deceived.* Dr. G. has himself observed, in numerous instances, motion of the blood in capillary vessels, active and continued, independent of the heart's action, when the above condition of things could not have existed.

By placing under the field of the microscope the most transparent part of the web of the foot of a very small frog, Dr. G. has observed many capillary vessels so minute as to be capable of admitting only a single fill of red globules. These globules may often be seen running different directions in parallel vessels; and, not unfrequently, single globules, and sometimes two or three together, may be observed, separated apparently at a considerable distance from any others, and yet, moving on slowly in some instances, and rapidly in others, independent of any *vis a tergo* power; so that, as the contractile power of the capillaries (except so far as regards the natural elasticity of their coats), is denied by these physiologists, the motion of these single globules must be independent of the heart's action, and dependent on an inherent power of their own. Not only this, but not unfrequently in watching the current of globules in these minute vessels, Dr. G. says that he has observed them to be suddenly arrested, and then to *recede* for some distance along the course of the vessel. This phenomenon is accounted for by Müller, on the supposition that the vessels may have been compressed by slight motions of the frog. This could not have been the case, said Dr. G., in one instance which he recently noticed, where a capillary vessel was seen to pass directly through the centre of a pigment cell, in a frog's foot. In this vessel, red globules were seen repeatedly to run in *different directions* in the same vessel, and to pass each other in the centre of the cell. If the motion of the blood in the capillaries is entirely dependent upon the heart's action, how can we account for this power being exerted in different directions in the same vessel?

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* Muller's Elements of Physiology, Vol. i., p. 236.

Other evidences, said Dr. G., of this inherent power of the blood have been observed. Having removed an elongated uvula, a few days since, the most transparent portion of the truncated part was placed under the field of the microscope. Upwards of half an hour after the part was excised, the blood was seen to move slowly along the capillary vessels; and yet, the precaution was taken to keep the piece moistened, so that the vessels might not contract from drying.

Dr. Carpenter designates this motive force of the blood, the "capillary power" of this fluid; and he believes that we are furnished with all the proof that can be needed of the existence, even in the highest animals, of a capillary power, which, though usually subordinate to the heart's action, is sufficiently strong to maintain the circulation by itself, when the power of the central organ is diminished.* But the term which he employs, capillary power, is evidently inappropriate, inasmuch as this power remains in the globules *after* they are withdrawn from the capillaries. By placing a drop of fresh arterial blood upon the glass, and examining it with the microscope, the globules will be seen to be in active motion for *several minutes* after they are withdrawn from the artery; and in some instances, Dr. G. says that he has observed them to form currents, and to circulate regularly, for a short distance, as if they were still in the capillary vessels. The same vital movements may be observed in a drop of the menstrual fluid, if examined immediately after its escape from the vagina.

These experiments may tend in some measure to establish the theory that the blood is endued with a vital power of self-propulsion.

Violent Effects from the External Application of Oleum Tiglii.—Dr. Green also mentioned that a entleman came to him complaining of a sore throat, and stated that he had been recommended to use croton oil externally for it. Dr. G. warned him of the dangers attending its application; but notwithstanding this advice, he applied three drops to his throat, which was followed by violent inflammation. Two large abscesses formed, which pressed on the trachea, impeding respiration, and requiring to be opened by the lancet. Erysipelas of the scalp also supervened. He is now doing well. The Society was disposed to ascribe this result to an idiosyncrasy.

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* Principles of Human Phys., by Wm. B. Carpenter, M. D., p. 412.

ART. V.—*On the Use of Oleum Tiglii, externally applied, in cases of Dysphonia, Cynanche Trachealis, &c.* By S. CORP ELLIS, M. D. of New York.

WILL you allow me to trespass with a few lines upon the pages of your valuable journal, for the purpose of recording the effects of oleum tiglii externally applied, in the second stage of croup? Having for some time been in the habit of employing this agent with entire success, in cases of dysphonia from catarrh, I was induced, from its peculiar action in one instance, to use it in cynanche trachealis, and with the same good result.

Case of Dysphonia.—The sister of J. R., Esq., of this city, an estimable lady, who for several weeks had been unable to speak, except in a faint whisper, having tried some remedies in vain, consulted me. I directed her to rub three drops of Croton oil along the trachea; and having done this, she had, in a few hours, a sense of constriction about the upper part of the thorax, followed by "*two*" expectorations of sanguineous mucus. Shortly after this, her voice became quite natural. This case is the only one in which I have ever observed the least unpleasant effect.

Case of Cynanche Trachealis.—A little son of Mr. J. Hull, aged about 3 years, had, according to its mother's account, been sick several days of a bad cold. I found the little sufferer struggling in all attitudes upon her lap, with high fever, great angina, and the never to be mistaken cough. Having directed everything to be done according to the usual practice in severe cases, I took leave. The next morning, the child was much worse; he lay in a comatose state, with his neck stretched back to its utmost extent, countenance livid, respiration nearly annihilated. The parents made up their minds to part with their little darling, and that too very soon; and I could not give much encouragement to the contrary. But, as a *dernier ressort*, I ordered the following:

Ol. Tiglii, gtt. xii.
Adipis ʒ ii.
M. fiat unguentum.

A portion, the size of a large pea, was directed to be gently rubbed along the course of the trachea every fifteen or twenty minutes. I feared that my next visit would be *post mortem*, but was delighted to find the child better, in fact playing on its mother's knee; and she informed me that scarcely fifteen minutes after the first application of the ointment had elapsed, ere there was a visible change. The child now breathed easier, his countenance assuming a more natural appearance; coma passing away, with the forcible ejection of a quantity of tenacious mucus. The use of the ointment was continued at much longer intervals; the next day the membrane disappeared entirely, and the child was well.

I have had three cases of croup since, in which the second stage was about forming, before I was called to attend. In these I have pursued the same treatment with similar success.

[In Vol. I., page 125, of this Journal, mention is made of extraordinary cases, extracted from Hufeland's Journal and the London Medical Gazette, of hoarseness and aphonia treated successfully by the external application of Croton oil. The only case that we have ever seen noticed, in which bad effects resulted, is that of Dr. Green, given in the preceding article.—EDITOR.]

ART. VI.—*Remarks on the Diseases which prevailed in Princeton, N. J., during the fourteen months previous to November*, 1837. By GEORGE M. MACLEAN, M. D., of New York, late President of the Medical Society of Middlesex County, New Jersey.

As President of the Medical Society of Middlesex County, New Jersey, it was my duty to deliver an Address at their semi-annual meeting, in 1837. Believing that the object of the Society would be better promoted by relating facts, than by advancing speculations, I prepared an Address based on the following materials; but owing to my absence, it was not delivered. These remarks are now submitted to the consideration of the profession.

Fever.—In consequence, no doubt, of its elevated position, and the absence of marshes, Princeton has been remarkably exempt from malarial diseases. Indeed, I remember when it was seriously denied by its older inhabitants, that a case of intermittent fever had ever originated in the place. Still, cases of a typhoid form of fever have from time to time occurred. In the autumns of 1835 and '36, it was particularly prevalent. In the latter year, owing to attending circumstances, it attracted much attention, and excited great alarm, which certainly increased its violence.

The disease commenced with a chill followed by fever, which at first assumed the remittent form, but very soon became continued. After three or four days, the pulse, which was uniformly soft, rose from 80 or 90 to 130 and upwards, and never fell below 130 till death approached, or convalescence was established. But little pain was experienced, and that little in the bowels. In a few cases there was cramp in the legs. The bowels became rather loose; the evacuations were serous, with greenish flakes floating in them, at times thick and of a greenish black color, and as the case became worse, blood; toward the last, pure blood would be discharged. The symptoms were those of ordinary typhoid fever with determination to the bowels, unless those already mentioned can be considered exceptions.

A few post-mortem examinations were made. The only appearance found which would account for the symptoms, was a congestion of the mucous membrane, particularly about the opening of the ductus choledoens and the ileo-colic valve. The liver was sound. There was, in one case, ulceration of the glands of Peyer, and enlargement of the mesenteric glands; but these appeared of long standing. In this case the fur on the tongue was peculiar in appearance: the surface of the tongue was fiery red, and from it, at small distinct points, the fur arose and spread out so as to meet similar risings; they were like miniature mushrooms. They were probably dependent upon chronic inflammation of the stomach, aggravated by the fever. The posterior portion of the lungs was congested; the anterior was almost white, though speckled greyish. This appearance was, no doubt, in part, though I think not entirely, the result of posture. Their texture was firmer than natural.

Almost every variety of practice was employed, but none appeared to be of any service, except the use of large doses of calomel at long intervals, so as to change the character of the alvine secretions. Bloodletting, general or local, large or small, was positively injurious. Diaphoretics were useless. The serous character of the evacuations would appear to forbid the use of salts; they were, however, given in some cases with senna: the effect, as might be expected, was bad. Scarcely any purgative could be borne. Calomel, in small doses, aggravated gastric distress, if present, or produced it if not; but taken in large doses, at long intervals, it rendered the evacuations less frequent and uncomfortable, while it changed their appearance to a dark green or black, and their consistence to that of tar. This was the forerunner of more healthy dejections, if these ever came. After these evacuations were secured, and mercurial action established, stimulants of any kind were well borne, and, indeed, appeared necessary to prevent sinking. The hemorrhage from the bowels disappeared as the mercurial action was established. A black boy was attacked in the same manner as the other patients. His pulse being 90 at the time of my first visit (the evening of the 4th day), I administered 20 grains of calomel. Finding him without change on the morning and evening of 5th and morning of the 6th day, I on each occasion repeated the dose. At noon, of the 6th day, he was freely salivated, the evacuations from his bowels being less frequent and more natural: but his pulse had risen to 130, and there was more appearance of distress. A gentleman, who, on this occasion visited him with me, advised the application of cups to the abdomen, and a dose of rhubarb and magnesia. The cups, very fortunately (as I have since thought), drew but little blood. The purge operated freely, but with no good result; for, on the following day (the 7th) every vestige of mercurial action had gone and the violence of the symptoms had returned. I repeated the scruple doses of calomel that morning and evening, and on the morning of the 8th day. These renewed the action on the salivary glands. The remedy was again discontinued, but with the same effect as before. On the 9th day I was obliged to return to the same remedy, two doses of which now produced its specific action, which was afterward kept up by repeating the calomel in smaller doses, its effect upon the bowels being controlled by opium. After the violence of the disease was thus overcome, whiskey and bark was administered freely, and with very good effect. The convalescence was very rapid, which, I believe, was owing to the effects of the remedies being obtained without exciting the stomach and bowels by their frequent repetition in the first stage.

In the autumn of 1837, the fever was far less prevalent; a few cases, however, did occur, somewhat of the same form as those of the previous year, there being the same disposition to alvine hemorrhage, but differing from them in being more distinctly remittent in the onset, less rapidly assuming alarming symptoms, the arterial action not being so rapid, and the alvine evacuations being less serous and flaky.

The most successful treatment appeared to consist in giving free doses of calomel, followed by castor oil or some other mild cathartic, particularly avoiding drastics which, indeed, seemed, in some cases, to produce hemorrhage; afterwards establishing mercurial action, which was well effected by calomel with Dover's powder, giving an anodyne at bed time, and when the excitement was sufficiently subdued, tonics.

When the system appeared to be sinking, blisters or sinapisms, with the internal use of stimulants, as wine whey, brandy toddy, carbonate of ammonia in pill, with ext. gentian or in solution, were very beneficial. The bleeding was checked by spts. turpentine or by acetate of lead, grs. ii., opium gr. $\frac{1}{4}$, every two hours, while awake.* It may be asked why were not large doses of calomel repeated this year as in the last? I would reply that, this year, the disease was less violent. The last year it appeared that the systems of the sufferers were oppressed with a load of miasm, which rendered them less susceptible of the specific action of the necessary remedy, than those of this year, notwithstanding the latter were in kind under the same influence.

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* I am persuaded that much harm is often done by awaking patients to give them medicines, especially when restlessness is a symptom; therefore, unless there be some

Pertussis, which had been very prevalent in the summer of 1836, was occasionally met with in the autumn and the early part of the winter; but it presented nothing remarkable in its course, excepting that a large proportion of cases assumed distinctly a tertian paroxysmal form. It yielded, in the violence of its symptoms, to an emetic, followed by mild purgatives (of which none answered better than calomel) and expectorants. After the stage of excitement was passed, much benefit was obtained from bark and from anodynes at bed time; of these, Dover's powder was preferred. Belladonna, which had of late been much extolled as a curative and preventive of this disease, was extensively employed, but without exhibiting any satisfactory effect.

Neuralgia.—About the same period, I met with several cases approaching nearer to the tic douloureux, as described by the older writers, than any I had before witnessed. The pain was confined to one side of the face, was aggravated regularly in the evening, at which time it was excessively severe, and it was unattended by other symptoms, general or local, of phlogosis. Its duration was about a fortnight. It was removed by gentle evacuants, aided by warm anodyne applications, and followed by pills composed of Carpenter's extract of bark, gr. i., and ext. stramonium, gr. ¼, every second hour within the ten preceding the expected paroxysm.*

Scarlatina.—In October, 1836, I met with a solitary case of scarlatina, and, in December, with one of dropsy consequent to scarlatina. In January and February, 1837, this disease was very prevalent. Though, in some cases, it was of the simple form, in most it assumed the anginose, and in a few the symptoms (high excitement rapidly followed by great prostration, unequal distribution of animal heat, low muttering delirium, lividness of the eruption, and dark sloughing appearance of the fauces) entitled it to the appellation of malignant.

I observed an appearance which was new to me, nor is it mentioned by any author whom I have consulted, namely, of small vesicles about the fauces, before any uneasiness was felt in those parts. In every case in which the throat was examined on the first approach of constitutional symptoms, these vesicles presented themselves; I could then, with confidence, predict the appearance of the rash.

Although aware that venesection is often highly advantageous, having witnessed the best effects from it in my own practice, in other years, I did not, that season, think proper to perform it in any case, and I had no reason to regret having abstained from it.† If the stomach was oppress-

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particular reason for a contrary practice, I always direct the patient not to be aroused from a comfortable and not protracted rest.

* Fresh leaves of stramonium form an excellent application in such cases.

† I may here express the apprehension that the strong terms in which most writers describe the caution necessary in the use of this remedy in this disease, may deter the younger members of the profession from resorting to it in cases where it is indispensable.

ed, or if there was much mucus in the throat, in the early stages, emetics were productive of benefit, apparently rather by removing foreign matter than by their constitutional effects. Purgatives were necessary throughout the attack. Calomel given in a separate and dry state, so as to act upon the ulcers in the throat, as well as purge, was very useful. It was followed by a laxative so as to secure its action on the bowels. Occasionally it was necessary to check a disposition to diarrhœa by opium; but this did, in no case, obviate the necessity of giving laxatives. Diaphoretics (of which none was more grateful or beneficial than the neutral mixture) and refrigerants, completed the constitutional treatment. The best applications to the fauces, in the first stage, were steam followed by cold water. The infusion of capsicum was used, but with little benefit. Slippery elm and sassafras barks afforded much relief.

Dysentery.—In July, August, and September, there were a few cases of dysentery; but they were of a light kind which yielded readily to mild laxatives, demulcents, infusion of ipecacuanha, in doses not sufficiently large to produce emesis, pediluvium, and an anodyne at night. The ipecacuanha appears to be, in this disease, invaluable. If an emetic be thought proper, this is sufficiently active and without the danger of aggravating the irritation of the mucous lining of the bowels. If this be not thought advisable, still the remedy, in small doses, will regulate the bowels, change the character of the stools, determine to the surface, and keep the skin in a comfortable and moist state. Of all anodynes, Dover's powder appears to be the best. No doubt much of its efficacy is due to the ipecacuanha controlling the effect of the opium.

Bowel Complaints not attended by Fever, and Diseases of the Air Passages, prevailed at different periods. The latter class are generally attributed to excessive cold or vicissitudes of heat and moisture; but I have frequently remarked that they have not confirmed this observation. During the year under consideration, the proportion of such diseases to all others, exclusive of surgical and such as are peculiar to females, was greatest in April, May, December, and February, and least in September, October, June, and March. It is not a strictly correct remark, but it is nearly so, that diseases of the bowels prevailed in an inverse ratio to those of the respiratory organs. The months in which they prevailed in the largest ratio, were October, September, June, and August; and their proportion was least in January, February, May, and April. Nothing remarkable was observed in either the symptoms or treatment of these diseases.

ART. VII.—*On Dietaries.* By CHARLES A. LEE, M.D., Professor of General Pathology and Materia Medica in Geneva Med. College.

No. II.

Concluded from Vol. I., page 238.

IN continuing my remarks on the subject of DIETARIES, I shall aim to present such details, either in a tabular or other form, as will enable the reader to institute a comparison between those of the public institutions of Great Britain and the United States; and thus, perhaps, lead to improvement and reform, in cases where they are called for, and are practicable. That dietetic regulations exist in some of our orphan asylums, poor-houses, and prisons, which ought to be abolished, I think must be admitted by all who have paid any attention to the subject; and that salutary changes, both as respects the quantity and quality of food furnished the inmates, will ere long be brought about, we have abundant reason to expect.

No one, indeed, supposes that those, who by misfortune or crime have become a public charge, are to fare luxuriously every day; but certainly they ought to be supplied with plain and substantial food, in quantity sufficient to maintain health and strength; and this may be determined, in a great degree, by actual experiment. While, on the one hand, there should be no extravagance or luxury in a prison or a poor-house; so, on the other, a minimum allowance of food, or, in other words, starvation, should not be recognized as an instrument of punishment. As the loss of health and strength through the inadequacy of food, is both barbarous and cruel, so also is it a punishment, in most cases, not contemplated by law, and worthy only of the most savage tyranny, among a nation of barbarians.

It may, perhaps, be objected, that the amount of food which we would supply, is far greater than many honest and hard-laboring men are able to obtain for themselves and families; and, therefore, that it would rather tend to encourage than prevent crime and idleness. If this be so, it is to be regretted; and the philanthropist and statesman should seek to promote such measures as will give to honest labor an adequate reward: but who does not feel that the blessings of independence, self-respect, and personal liberty, with Croton and a crust, would far outweigh the luxuries of a Dives in a prison or an almshouse. The question, moreover, is not what the honest laborer can obtain, but what is necessary for the prisoner; whatever that is, it should be supplied, and at the least possible cost: and I am happy to learn, that slops, in which a small quantity of lean beef and bone has been boiled (*miscalled soups*), are not as frequently furnished, in some of our public charitable institutions, as formerly, and it has been seriously debated whether starvation should be any longer practised as a means of punishment. Mr. Fallon, the keeper of the City prison, who has actually come out in a letter in the public prints, apologizing for not allowing the prisoners vegetables, especially potatoes, says that the latter were refused when offered to the prisoners, and suggests that as they are too good for those incarcerated for crime, they ought to be reserved for those imprisoned for debt, and other more worthy objects. Thus these luxuries, which are so indignantly rejected by the denizens of the Five Points, and State Prison candidates, are to be reserved, by way of reward, for those who are more deserving of such favors! The managers, too, of some of our orphan asylums begin to inquire, I am told, whether children over two years of age have *teeth;* and if so, whether this is not an indication that nature intended that they should be supplied with something solid to chew upon for food, instead of daily swallowing those thin, animalish potations aforesaid. Some, it is said, who have pressed their physiological researches still further, have found that the digestive organs of children are tolerably well adapted to the digestion of solid substances, and consequently maintain, openly and fearlessly, that a considerable portion of the food should be of a solid nature; that it should be derived both from the vegetable and animal kingdom, and that *variety*, both as regards quality and quantity, should be consulted in all Dietaries, both for the young, the middle-aged, and the aged. At any rate, they seriously doubt whether the experiment has not been sufficiently tried, as to the *minimum* quantity of food which will suffice for human existence, in countries, especially, where aliment is both abundant and cheap; and whether moral and religious instruction, with friendly advice, is not calculated to effect a more salutary reform in the habits of criminals, than the pain and privation of gnawing appetite, or even actual starvation. On these difficult and abstruse questions, I forbear to express any opinion.

In my first article on the subject of *Dietaries*, were the following remarks: "The ophthalmia, which has hitherto been the scourge of our orphan asylums and Long Island Farms' school, owed its origin to defective nutriment, and its propagation and obstinacy to want of cleanliness and ventilation. When these abuses were reformed, the disease disappeared spontaneously, as was anticipated. In the winter of 1840, an epidemic diarrhœa prevailed among the children on the Long Island Farms, attended with highly malignant symptoms, such as mortification of different parts of the body; ulceration, and consequent destruction of the eyes; a thin dissolved state of the blood; offensive odor from the skin, &c., &c. The diet of the children was wholly unsuited to their ages, being coarse and indigestible, with scarcely any milk whatever, and bread of a very inferior quality."

As this statement has excited some interest, and even been questioned by some of our city authorities, of whom, be it said with all due respect and humility, they are not always the best judges as to the most suitable Dietetic and Hygienic regulations for public institutions, or of the effects of those which have been adopted, I take great pleasure in presenting the following letters, addressed to the Editor of this Journal, by Dr. Morrell, who was the Physician of the establishment at the time, and has been ever since, and whose talents, zeal, and integrity, require no commendation at my hands.

"NURSERY HOSPITAL, LONG ISLAND FARMS.—*March* 13*th*, 1844.

"Dear Sir,—In compliance with your request, I now furnish you with the system of diet used, at this time, for the Nurseries of the Long Island Farms and Nursery Hospital on Blackwell's Island. This is in reference to the '*Poor House Mortification*,' which were better termed *Land Scurvy*, the cause of which is attributed to the former bad system of diet, and its disappearance to a much improved one. For a description of this horrid disease, I would refer you to the New York Medical and Surgical Journal, vol. iii., p. 53.

"The present diet is as follows:

Breakfast for large boys and girls.	Monday	Bread, with coffee or tea, sweetened with molasses, and tempered with milk.
	Tuesday	
	Wednesday	
	Thursday	
	Friday	
	Saturday	
	Sunday	

Breakfast for children between two and five.	Turnips and potatoes mashed together, and tempered with milk for one day; for the next, milk-toast; and so alternately.

Dinner for all.	Monday	Beef-soup, with the meat and bread.
	Tuesday	Pork, boiled with potatoes and cabbage, with bread.
	Wednesday	Roast beef, with turnips, potatoes and bread.
	Thursday	Rice and molasses, or mush and molasses.
	Friday	Boiled beef, with potatoes and bread.
	Saturday	Salt fish mashed with potatoes.
	Sunday	Bread and tea or coffee, as at breakfast.

Supper for all.—The same as at breakfast.

"To the above is occasionally added for dinner, boiled beets dressed with vinegar, raw cabbage dressed in the same way, and sometimes a bread-pudding; and, in the proper season, radishes, green peas, pepper-grass, green beans, etc.

"The diet for the hospital is much better than that for the nurseries. In addition, the hospital is supplied with butter, 3lb. per day; eggs, fifteen per day; with veal or mutton, at the discretion of the physician. Besides, the garden is made to produce an abundance of vegetables and fruits,—currants, gooseberries, strawberries, grapes, etc., of which the sick get their share.

"With such diet, scurvy and, consequently, mortification have disappeared from the nurseries. But ash-colored ulcerations of the mucous membrane of the cheek still occur occasionally at the Farms, and also some genuine forms of stomatitis. None have, however, terminated in gangrene since October, 1842. Under this diet, the average number of deaths has also diminished. From January, 1843, to January, 1844, there have been treated of all diseases, nine hundred cases; and, of these, sixty-six died, which is an annual mortality six less in number than have died on the Farms during the last twelve years: and this difference is rendered still more marked by the fact that, in 1832 and 1833, the mean number of individuals was not over four hundred, which is now six hundred; a difference equivalent to 50 per cent.

"Yours, very respectfully,

"Samuel Forry, M.D." "N. Morrell.

Upon further solicitation by Dr. Forry, as regards the precise quality of the diet used for the children at the period when the "land-scurvy" prevailed, Dr. Morrell made the following additional reply:—

"NURSERY HOSPITAL.—*March* 27*th*, 1844.

"Dear Sir,—At the period when "Poor House Mortification, or Land Scurvy" prevailed as an epidemic on the Farms, the diet was:

"*For Breakfast.*—Bread and tea, or coffee without milk, sweetened with molasses.

"*Supper.*—Same as breakfast.

"*Dinner.*—Bread and *beef soup, often without any vegetables*, for one day. Bread and the *beef of which the soup had been made*, for the next day, and so alternately.

"*Hospital.*—Not different from the rest, except the addition of about thirty quarts of milk, used mostly for the eyes. A few crackers and a little butter and sugar for convalescents.

"I had much rather not have been called upon to furnish this information; but as the purposes of scientific research cannot be answered without a full view of all the circumstances, let the facts be stated.

"Yours, very respectfully,
"N. Morrell, M.D.

"Samuel Forry, M.D."

Remarks.—No comment is necessary on these statements, as the facts speak for themselves. I mentioned in my former article, that "at the Half-orphan Asylum, in the Sixth Avenue, in this city, it was lately the custom to furnish boiled corn beef, cold, to the children on Sundays; but as it was found to produce a very general diarrhœa, it had to be laid aside, for this reason, during the summer months." In the New York Orphan Asylum, it has been the custom to boil beef for soup, and then, after roasting, to serve it up cold, the next day. Thus, after extracting all the natural juices of the beef, it must be rendered still more dry and indigestible, by condensing the fibrine by dry heat; both of these practices have been productive of great injury to the health of the children. But at the Long Island Farms, this absurd system seems to have been carried to the very height of perfection; a little bread of an inferior quality, as I know from my own personal and repeated observation, and a small quantity of slops, called tea, with molasses, for *breakfast;* for *dinner, soup!* that is, the wash in which coarse beef had been boiled, without vegetables, and a piece of bread—or the dry beef, cold, without the slops—and for supper, the same as for breakfast. No rice, no potatoes, no Indian, no milk, no butter, no cheese; nothing but bare cold, coarse beef, or beef-water; poor bread, and, as a luxury, a little tea or coffee and molasses! Even when sick, they fared but little better—a few *crackers*, and a little *butter* and *sugar*, being the only addition—*milk*, it seems, was thought more suitable for the *eyes* than for the stomach! If this is not out-Heroding Herod, in the "murder of the Innocents," we should like to learn what is. The effects of the system may be understood by the following extract, which we quote from Dr. Morrell's most interesting and valuable paper, in the 3d vol. of the New York Journal of Medicine, page 53:—

"About the middle of December, 1839, evidences of a constitutional change in many of the children were apparent. They had not lost much of their embonpoint, but were extremely dull and inactive, their eyes lacked lustre, their skins exhaled an offensive odor, and when any were taken ill, medicine no longer had its accustomed effect. Shortly afterwards, a great number were taken with a slight cholera morbus, which contributed to render their health still more precarious; and yet later, an incurable diarrhœa, followed by mortification, made its appearance. The diarrhœa would attack, produce most insupportably offensive evacuations mixed with much food that appeared unchanged, causing very little pain, but the most extreme debility, and terminating in from three to five days in mortification. This commenced somewhere near the junction of the mucous membrane and skin, about the vagina, or anus, or inside the cheek, with a dark spot, which spread so rapidly as *to involve the parts affected in one mass of rottenness and putridity!* Both extremities of the alimentary canal were not attacked at the same time, but its progress having been arrested at the vulva, the mortification commenced afterwards in the mouth.

"Diarrhœa always attended these cases to their close, although in many cases without mortification, but not commonly without the loss of one or both eyes previous to death. In the progress of the case, a pearl-white speck made its appearance on the cornea, commonly on the under side, at its junction with the sclerotica, spread over half the pupil, penetrated and left the iris protruding. All the children were more or less under endemic influence; a child was bled for pleurisy, in three days it mortified; two others were bled who labored under febrile excitement, and mortification set in soon after; the ophthalmia could not be treated in the ordinary manner without certain loss of the eyes from rapid ulceration of the cornea. During the prevalence of the endemic, we had occasional cases of scarlet fever, all of which followed the same course, and terminated fatally."

This description shows that the disease was *scurvy*, precisely similar to that which occurs on ship-board, and which prevailed a few years since, at the Millbank Penitentiary, in London, where the diet was very much the same, viz., *beef-water* (*soup*), of which the prisoners had the generous allowance of a quantity equivalent to one ounce and a quarter of beef daily, and bread. (See New York Journ. Med. and Collat. Sci., vol. i., p. 252). It was to this diet, it will be recollected, that the Royal College of Physicians ascribed the disease.

Though the diet of the establishment at the Long Island Farms is vastly improved, the effects of which are most gratifying, there is still room for further improvement. Instead of the thin slops, called "tea and coffee," at breakfast, milk should be furnished, in quantity sufficient to allow each child *one pint*, with bread of a wholesome quality, baked the preceding day, or with boiled rice, or Indian, which would be equally nutritious and healthy. It would be still better could they be alternated —bread, rice, Indian—this would furnish a very agreeable variety, and contribute much to the health of the inmates. That there is room for further reform is evident from the following abstract of the Report of Dr. Morrell, of "Diseases Treated in the Children's Hospital from July 1st, 1842, to May 8th, 1843," to the Common Council:

Of Ophthalmia	cases	490	vision impaired in one eye, . .	2
Scarlet fever	"	20	of whom died, ...	0
Consumption,	"	13	"	13
Dysentery,	"	115	"	5
Enteritis,	"	8	"	2
Diarrhœa,	"	75	"	4
Cachexia,	"	12	"	1
Erysipelas,	"	1	"	1
Peripneumony,	"	8	"	4
Scrofula,	"	40	"	5
Whooping-cough,	"	84	"	1
Fever,	"	22	"	4
Measles,	"	312	"	52
Mortification,	"	4	"	4
Putrid Fever,	"	1	"	1
Total,		1212	Total deaths,	103

The whole number of children at the establishment, is not stated, but they have usually ranged, in former years, from 500 to 800. This is probably about the present number. This is certainly a large amount of sickness for such a number of inmates, but the proportion of deaths is not as great as we should have expected, from the extent of disease and the number attacked. Dr. M. states, in explanation of the great mortality of measles, that when "the children are attacked on the Farms, they come immediately to the hospital, and that all the feeble subjects, who have been sick from diarrhœa, dysentery, fever, scrofula, or whooping-cough, take the measles immediately and die." Now, most of these affections are owing, confessedly, to innutritious and improper diet, in connection with bad air, and therefore the mortality may, in a great degree, be referred to this cause. Four hundred and ninety cases of ophthalmia, 40 of scrofula, 75 of diarrhœa, 115 of dysentery, &c., show that there is still something wrong, that needs correction. Dr. Whiting, the late talented physician of the Bellevue Hospital, speaking of these children in his Report to the Common Council, says:—" The greater portion of them have scrofulous constitutions, the only inheritance they have received from their parents, who in turn inherit it from poverty and wretchedness." (*Rep. Doc.*, No. 119, p. 1400.)

Now, the most successful mode of eradicating such an affection, is a judicious system of diet. Without this, no medicine is of the least avail.

In the treatment of disease, a suitable choice of diet has always been considered as of the highest importance. Accordingly we find that the subject of *Dietetics* occupies a considerable space in almost every treatise on the Materia Medica. Among the ancients, this department of the healing art occupied a higher rank in public estimation than even at the present time; and of those who wrote extended treatises on the subject of Food and Diet, may be mentioned the names of *Hippocrates*,* *Celsus*,† *Diascorides*,‡ *Galen*,§ *Oribasius*,‖ *Aetius*,¶ *Rhases*,** *Avicenna*,†† *Averrhoes*, &c.

It is a remark of Hippocrates, which has been copied by Aristotle, Galen, and others, that " the stomach is to animals what the earth is to vegetables;" and Galen seriously admonishes his readers " not to eat thoughtlessly, like brute beasts, but to consider attentively what kinds of food and drink they find from experience to be prejudicial to them." (*De Sanitate tuendâ*, *Lib.* vi., 13.) " A good physician," says Atheneus, " ought to be a good cook." A modern writer has pronounced the art of cookery to be a branch of *organic chemistry!* As Mr. Pereira has offered some highly judicious remarks on the subject of Dietaries for the sick, I shall present his views as embracing the material facts, and then give an abstract of the Dietaries of the Principal London Hospitals. " In no diseases," says Mr. P.," is attention to diet more necessary than in non-febrile disorders of the digestive and urinary organs. For in acute maladies, in which abstinence or low diet is requisite, there is usually no disposition to take food; on the contrary, solids of all kinds are generally loathed; and in such cases, therefore, there is little or no chance of any error of diet being committed. Dietetical regimen is more important in chronic diseases of the assimilating organs, in which the appetite is unimpaired, or even increases, since in such the patient is never apt to overstep the bounds of prudence by the employment of a diet improper, either from the quantity or quality of the food used. In chronic local diseases, when the constitution is unimpaired, and the appetite for food remains natural, I would by no means advocate the adoption of a spare or low diet; since I believe that in such cases the indulgence of a moderate appetite for plain food is attended with beneficial results. From this statement, however, maladies affecting the organs of assimilation must be frequently excepted. " Natural instincts," justly observes Dr. Billings,

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* De Diæta, de Affectionibus et alibi. † Lib. II. ‡ Mater. Med., Lib. II.
§ De Facult. Aliment., et de Probis, pravisque Aliment. ‖ Med. Collect., Lib. I.
¶ Lib. II. ** Ad Mansor., Lib. III. †† Cautic., p. 2.

"are too often thwarted; it is much too common to put patients empirically on low diet; and patients of the higher classes—the better educated—very often put themselves on low diet unnecessarily, so far as we may take natural instinct for a guide." He further observes, "we may assert that when a patient *can* eat, he may be allowed to do so; for if he has even a slight degree of fever, he *cannot* eat." (*First Principles of Medicine.*)

Dr. Pereira has described eight different kinds or grades of dietetical regimen, employed in the treatment of diseases, which he divides as follows:

"1. Full, Common, or Meat Diet.—On many occasions where it is desirable to restore or support the powers of the system, patients are permitted to satisfy their appetite for plain vegetable and animal food. In many indolent diseases, in scrofula, in some affections of the nervous system (as chorea and epilepsy), and in the stage of convalescence after acute maladies, &c., this kind of diet is frequently directed. In these cases, beer and, sometimes, wine are permitted; and spirit is occasionally required. In some diseases of, and in accidents occurring in, confirmed drunkards, it is frequently found injurious to withhold the stimulus to which the patient's system has been long accustomed; and thus, wine, brandy, rum, or gin, is ordered, according to circumstances.

"2. Animal Diet.—This term is applied to a diet composed of animal food, either exclusively or principally. The only disease, in which a diet *exclusively* of animal food is recommended, is diabetes. In this malady, strict abstinence from vegetable substances is attended with the diminution of both the quantity, and the saccharine condition, of the urine. But it deserves especial notice that the amount, as well as the nature, of the food taken in this disease, requires carefully attending to, as the craving for food is sometimes apt to induce the patient to indulge to an injurious extent.

"A considerable variety of food is necessary for patients limited to the exclusive use of animal diet, on account of the loathing of the same substance if frequently repeated. *Butcher's-meat*, *bacon*, *poultry*, *game*, *fish*, *shell-fish*, *cheese*, *eggs*, *sausages*, and *brawn*, are allowed in private practice. For common drink, *water*, *beef-tea*, or *mutton-broth*, may be sparingly used. *Milk* is generally permitted, but, as it contains *sugar*, its use is not unobjectionable.

"By the use of animal food exclusively, the quantity of sugar in the urine of diabetic patients is greatly reduced; but I have never seen this secretion entirely lose its saccharine condition by even the most rigorous adoption of animal diet. In one case, recently under my care in the London Hospital, the quantity of urine passed in twenty-four hours was reduced from about eleven to three or four pints in the twenty-four hours; but its specific gravity (1040 to 1045) and saccharine quality remained unaltered. From whence, it may be asked, in such cases, is the sugar derived? Where the use of milk is permitted, this, perhaps, is in part the source of it. I have, however, found it where neither milk nor vegetable food was employed; and, in such cases, the substances which were used as food, and from which sweet or saccharine matter is known to be obtainable, were gelatine and oil or fat. But neither the sugar of gelatine (*glycicoll*) nor the sweet principle of oils and fats (*glycerine*) is identical with the diabetic sugar (*glucose*); and we are unacquainted with any means of converting the two former into the latter substance.

"Patients, we are told, sometimes evince such an inordinate craving for vegetable food, that it is difficult, if not impossible, to persevere for any considerable length of time on an exclusively animal diet. In the cases which have fallen under my observation this has not been the case. I have several times met with patients who have objected to persevere with this diet, not on the above ground, but simply because they became satisfied of its inefficacy; the diminution in the quantity of urine not being attended with a corresponding relief of the constitutional symptoms.

"In those diabetic cases in which it is thought advisable to permit a limited quantity of vegetable food, in conjunction with animal diet, those vegetables should be selected which are most highly nitrogenized, and which are freest from sugar or substances capable of being converted into saccharine matter, as the starchy bodies. These conditions are the best fulfilled by the cruciferous plants,—as *cabbage*, *greens*, *cauliflower*, *broccoli*, *watercress*, and *mustard* and *cress*. *Sauerkraut*, or fermented cabbage (see p. 184), is sometimes permitted. The *aromatic condiments* (as sage, mint, marjoram, fennel, parsley, caraway, cinnamon, nutmegs, allspice, pepper, mustard, &c.) are, of course, unobjectionable, as far as sugar is concerned. *Fruits*, especially apples and pears, are highly objectionable, on account of the saccharine and amylaceous matters which they usually contain. For drink, Dr. Prout recommends sound *porter* in preference to wine or spirits.

"Some practitioners, among whom Dr. Prout deserves to be especially mentioned, object to the exclusive use of animal food in diabetes; "but consider a certain proportion of *farinaceous* matters proper. The recommendation of this admixture of farinaceous matters is founded upon a fact already alluded to, and apparently well established, viz., that the assimilation of the saccharine principle is one of the last functions that becomes extinct in animals. The proportions of these two forms of aliment must be varied according to the circumstances of the patient; and particularly according to the degree in which he is able to assimilate albuminous, in preference to farinaceous, matters; a point not difficult to be determined by a little attention. Of farinaceous matters, *high* or *strong*, as the farina of wheat in the shape of bread, &c., seem to be most easily assimilated. The *low* kinds of farinaceous matters, as arrow-root, potatoes, &c. (with the exception, perhaps, of rice), seem to be reduced to a species of sugar, more difficult of assimilation than the sugar from wheat-flour, &c., and, in general, therefore, should be avoided.*

"*Gluten* is a nutritious vegetable principle, to the employment of which, in diabetes, no objection can be raised; and I have already (see p. 150) had occasion to notice *gluten bread*, which has been made for the use of diabetic patients.

"3. VEGETABLE DIET.—The exclusive employment of vegetable food, in conjunction with the use of distilled water, has been recommended by Dr. Lambe† as a remedy for cancer, scrofula, consumption, asthma, and other chronic diseases; but he has, I suspect, gained few, if any, proselytes to his opinions and practice.

"4. SPARE OR ABSTEMIOUS DIET.—The term *spare* or *abstemious diet* is sometimes used to indicate the employment of vegetable substances principally, (not exclusively). It generally includes the use of the white-fish (the flesh of which is less nourishing and stimulating than butchers' meat, see p. 134), sometimes alternating with a limited quantity of poultry or butchers' meat. In plethoric habits, where the appetite is unimpaired, this diet is ordered in cases of threatened apoplexy, gout, &c. By its adoption we diminish the quantity of nutritive matter supplied to the system, while we keep the digestive organs actively employed.

"5. FEVER DIET, (*Thin Diet; Spoon Diet; Slops*).—'In febrile diathesis,' says Dr. Beaumont,‡ 'very little or no gastric juice is secreted. Hence the importance of withholding food from the stomach in febrile complaints. It can afford no nourishment, but is actually a source of irritation to that organ; and, consequently, to the whole system.' In another place§ the same author observes, 'that drinks received are immediately absorbed, or otherwise disposed of, none remaining in the stomach ten minutes after being swallowed. Food taken in this condition of the stomach remains undigested for twenty-four or forty-eight hours or more, increasing the derangement of the whole alimentary canal, and aggravating the general symptoms of disease.'

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* On the Nature and Treatment of Stomach and Urinary Diseases, p. 41. London: 1840.

† Reports of the Effects of a Peculiar Regimen on Scirrhous Tumors and Cancerous Ulcers. London: 1809. Additional Reports on the Effects of a Peculiar Regimen in cases of Cancer, Scrofula, Consumption, Asthma, and other Chronic Diseases. London: 1815.

‡ Experiments and Observations on the Gastric Juice, &c., p. 132.

§ Op. supra cit., p. 99.

"These observations suggest the appropriate diet for febrile states of the system. Foods which require digestion are to be withheld: indeed, they are generally loathed,—want of appetite being one of the early symptoms of fever. Aqueous drinks (commonly called diluents or slops), however, are rapidly absorbed without undergoing digestion. Tea, toast-water, and barley-water, therefore, may be taken *ad libitum*. Of the foods which are most admissible when the patient feels capable of taking them, the saccharine and the amylaceous are the lightest and most appropriate. Acidulous fruits and drinks sometimes prove most refreshing. Saccharine substances are absorbed, and pass into the chyle, and subsequently support the process of respiration, while amylaceous substances yield sugar in the stomach independently of the gastric juice, and probably by the aid of the saliva merely (see p. 62).

"6. Low Diet.—In acute inflammation of important organs, and after serious accidents, surgical operations, and parturition, patients in general are directed to adopt a low diet, consisting principally of liquid foods, as gruel, broth, milk, tea, and barley-water, and a moderate allowance of bread or biscuit, and light farinaceous puddings. The effect of low diet on the blood is similar to that of loss of blood; namely, a diminution of the number of the blood disks.*

"7. Milk Diet.—Besides cow's milk, which constitutes the principal article of food, this diet includes the use of farinaceous substances (such as arrowroot, sago, and tapioca), bread, and light puddings (of rice, bread, or batter). Milk is ordered when we are desirous of affording support to the system with the least possible stimulus or excitement. It is well adapted for inflammatory diseases of the chest (phthisis especially), of the alimentary canal, and of the bladder, when it is considered expedient to employ a nutritious, but not stimulating, diet. After hemorrhages, when the powers of the system have been greatly exhausted, a milk diet is frequently beneficial. It has also been considered one of the best means of preventing and of curing the gout. It is a good diet also for many of the diseases of children, especially those of a strumous or scrofulous nature. In some of the above-mentioned maladies, where the stomach is weak and irritable, cow's milk is apt to occasion vomiting and other unpleasant effects, in consequence of the butter which it contains. In such cases, skim-milk or ass's milk may be advantageously substituted.

"8. Dry Diet.—In several maladies it becomes necessary to restrict the quantity of liquids used: as in valvular disease of the heart, aortic aneurism, diabetes, and diuresis with either excess or deficiency of urea. The first of these diseases is incurable, and, therefore, our object is its palliation. One mode of attempting this is, to relieve the obstructed circulation by lessening the volume of blood; and which may be in some degree effected by limiting the amount of drink. In aneurism of the aorta we endeavor to lessen the tension of, and to promote the deposition of fibrine within, the sac. The indications are in part fulfilled by a dry diet, by which fulness of vessels and thinness of the blood are lessened. In diabetes, and also in diuresis, with either excess or deficiency of urea, a most important part of the treatment is to diminish, as much as possible, the quantity of fluids taken."

"I have said nothing of the nature of the solid food which is used by those who adopt a dry diet; because it is subject to considerable variation. In some cases a generous, in others a spare, diet should accompany it.

"Subjoined are the diet-tables of the *Metropolitan Hospitals for the Sick*,† of the *Royal Ordnance Hospitals*, and of the *Royal Navy Hospitals and Marine Infirmaries* :—*

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* See Andral and Gavarret's *Récherches sur les Modifications de Proportion de quelques principes du Sang.* Paris, 1842.

† "In addition to the substances specified in the following Diet Tables of the Metropolitan Hospitals, other articles (as chops, steaks, fish, wine, spirit, porter, &c.), are permitted, when specially ordered by the medical officers. These are denominated *extras.*

"1. LONDON HOSPITAL.

	Common Diet.	Middle Diet.	Low Diet.	Milk Diet.
Per Day . .	12 oz. Bread. 1 pint Porter, *Men.* ½ pint do. *Women.*	The same, except that 4 oz. of Meat shall be given instead of 8 oz.	8 oz. Bread.	12 oz. Bread.
Breakfast .	Gruel.		Gruel.	Gruel.
Dinner . .	8 oz. Beef, with Potatoes, thrice a week. 8 oz. Mutton, with Potatoes, twice a week. 8 oz. Potatoes, and Soup, with Vegetables, twice a week.		Broth.	1 pint Milk.
Supper . .	1 pint of Broth.		Gruel or Broth.	1 pint Milk.

"2. ST. BARTHOLOMEW'S HOSPITAL.

	Common Diet.	Broth Diet.	Thin or Fever Diet.	Milk Diet.
Daily	Milk Porridge. 12 oz. Bread. 6 oz. Mutton or Beef. 1 pint Broth [with Peas or Potatoes, 4 times a week.] 2 pints Beer, *Men.* 1 pint do. *Women.* 1 oz. Butter, twice a week.	Milk Porridge. 12 oz. Bread. 2 pints Broth. 1 pint Beer. 1 oz. Butter.	Milk Porridge. 12 oz. Bread. 1 pint of Milk, with Tapioca, Arrow root, Sago or Rice, as may be prescribed. Barley-water.	Milk Porridge. 12 oz. Bread. 2 pints Milk, with Tapioca, Arrowroot, Sago, or Rice, as may be prescribed. Barley-water. 1 oz. Butter. Bread Pudding, 3 times a week, when ordered.

"3. GUY'S HOSPITAL.

	Full Diet.	Middle Diet.	Low Diet.	Milk Diet.	Fever Diet.
Daily	14 oz. Bread. 1½ oz. Butter. 1 qu'rt Table Beer. 8 oz. Meat when dressed.	12 oz. Bread. 1½ oz. Butter. 1 pint Table Beer. 4 oz. Meat, when dressed, and ½ pint Broth.	12 oz. Bread. 1 oz. Butter. Tea and Sugar.	12 oz. Bread. 1 oz. Butter. 2 pints Milk.	6 oz. Bread. 1 oz. Butter. Tea and Sugar.
			Half a pound of Beef (for Beef-tea), or Arrowroot or Sago, when ordered.		

For each diet, Gruel or Barley-water, as required.

"4. ST. GEORGE'S HOSPITAL.

	Extra Diet.	Ordinary Diet.	Fish Diet.	Fever Diet.	Broth Diet.	Milk Diet.
Daily . .	12 oz. Bread. *Men.* 2 pints Beer. *Women.* 1½ pts. Beer.	12 oz. Bread. 1 pint Beer.	12 oz. Bread.	12 oz. Bread. Barley-water *ad libitum.*	12oz. Bread.	12oz. Bread.
Breakfast	1 pint Tea. ¼ pint Milk.	1 pint Tea. ¼ pint Milk.	1 pint Tea. ¼ pint Milk.	1 pint Tea. ¼ pint Milk.	1 pint Tea. ¼ pint Milk.	1 pint Tea. ¼ pint Milk.
Dinner . .	12 oz. Meat, roasted (weighed with the bone before it is dressed), four days,—boiled three days. ½ lb. Potatoes.	One half the meat allowed for extra diet. ¼ lb. Potatoes.	4 oz. of plain boiled white fish (as Whiting, Plaice, Flounders, or Haddock).	Arrowroot, &c., must be specially directed.	1 pt. Broth. 6 oz. light Pudding.	1½ pints Rice Milk four days. ½ lb. Bread or Rice Pudding three days.
Supper .	1 pint Gruel. ¼ pint Milk.	1 pint Gruel. ¼ pint Milk.	1 pint Gruel. ¼ pint Milk.	1 pint Tea. ¼ pint Milk.	1 pt. Gruel. ¼ pt. Milk.	½ pint Milk,

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* The two latter are omitted in this article.—L.

"5. ST. THOMAS'S HOSPITAL.

	Full Diet.	Milk Diet.	Dry Diet.	Fever Diet.
Daily . .	2 pints of Beer; 14 oz. of Bread.	12 oz. of Bread.	14 oz. of Bread; 2 pints of Beer.	12 oz. of Bread; 2 pints of Beer.
Breakfast .	Water Gruel.	1 pint of Milk.	Water Gruel.	Water Gruel.
Dinner .	½ pound of Beef, when dressed, twice a week; 4 oz. of Butter, or 6 oz. of Cheese, thrice a week; ½ lb. of Mutton, when boiled, thrice a week.	1 pint of Milk 4 times a week. Rice Pudding thrice a week.	4 oz. of Butter, four times a week; Rice Pudding and 4 oz. of Butter, three times a week.	¾ of a lb. of Beef for tea.
Supper .	1 pint Broth, four times a week.	1 pint of Milk.		

"6. WESTMINSTER HOSPITAL.

	Full Diet	Middle Diet.	Low Diet.		Spoon, or Fever Diet.	Incurables' Diet.
			Fixed.	*Casual.*		
Daily . .	14 oz. Bread.	10 oz. Bread.	½ lb. Bread.	—	¼ lb. Bread.	¾ lb. Bread. ½ lb. Meat. ½ lb. Potatoes. ¾ pint Milk. 1 pint Porter.
Breakfast	1 pint Milk Porridge or Rice Gruel.	1 pint Milk Porridge, or thin Gruel.	1 pint Tea, with Sugar and Milk.	—	1 pint Tea, with Sugar and Milk.	
Dinner	½ lb. Meat roasted, boiled, or chops. ¾ lb. of Potatoes.	¼ lb. Meat roasted, boiled, or chops. ¾ lb. of Potatoes.	No fixed diet for dinner.	1 pint of Broth, or ½ lb. of Bread or Rice Pudding, or 1 pint Beef Tea, or a Chop, or Fish.	Barley-water.	
Supper .	1 pint Milk Porridge, or Rice Gruel.	1 pint Milk Porridge, or thin Gruel.	1 pint Tea, with Sugar and Milk.	—	1 pint Tea, with Sugar and Milk.	

"7. MIDDLESEX HOSPITAL.

	Diæta Carnis, or Meat Diet.	Diæta Jusculi, or Soup Diet.	Diæta Lactis, or Milk Diet.	Diæta Simplex, or Simple Diet.	Cancer Diet.
Daily .	12 oz. Bread.	12 oz. Bread.	12 oz. Bread.	6 oz. Bread.	12 oz. Bread. ½ lb. Meat. ½ lb. Potatoes. 1 pint Milk.
Breakfast	1 pint Milk.	1 pint Milk.	1 pint Milk.	1 pint Barley-water.	
Dinner	*Physicians' Patients.* ½ lb. Potatoes, 4 oz. dressed meat (Beef or Mutton), roast and boiled alternately, 4 days. 4 oz. Meat in Soup 3 days. *Surgeons' Patients.* ¾ lb. Potatoes, 4 oz. dressed meat (Beef or Mutton) roast and boiled alternately.	1 pint Soup, made with 4 oz. Beef, alternately with 1 pint of Broth with Barley.	½ pint Milk, with Rice Pudding 4 days, and with Batter Pudding 3 days.	1 pint Gruel.	
Supper .	1 pint Gruel alternately, with 1 pint of Barley-water.	1 pint Gruel.	½ pint Milk, or 1 pint of Gruel.	1 pint of Gruel or Barley-water.	

"8. KING'S COLLEGE HOSPITAL.

	Full Diet.	Middle Diet.	Milk Diet.	Low Diet.	Fever Diet.
Daily . .	1 pint Beer, or ⅓ pint Porter. 14 oz. Bread.	14 oz. Bread.	1 lb. Bread.	8 oz. Bread.	—
Breakfast	1 pint Milk Porridge.	1 pint Milk Porridge.	1 pint Milk.	1 pint Gruel.	1 pint Gruel.
Dinner .	½ lb. Meat. ½ lb. Potatoes.	¼ lb. Meat. ½ lb. Potatoes.	1 pint Milk.	1 pint Broth.	2 pints Barley Water.
Supper .	1 pint Milk Porridge.	1 pint Milk Porridge.	1 pint Gruel.	1 pint Milk Porridge.	1 pint Milk Porridge.

"9. DREADNOUGHT HOSPITAL SHIP.

	Full Diet.	Ordinary Diet.	Low Diet.	Milk Diet.	Fever Diet.
Breakfast	1 pint Tea. 1 lb. Bread.	Ditto. Ditto.	Ditto. ½ lb. Bread.	Ditto. 1 lb. Bread.	Ditto.
Dinner .	¾ lb. Meat. ¾ lb. Potatoes. 2 pints Beer, (if ordered).	½ lb. Meat. ½ lb. Potatoes. 1 pint Beer (if ordered).	1 pint of Beef Tea.	1 pint Milk.	Gruel.
Supper .	1 pint Broth.	1 pint Broth or Gruel.	1 pint Gruel or Milk (if ordered).	1 pint Milk.	Gruel or Barley-water.

"10. NORTH LONDON HOSPITAL.

	Full Diet.	Middle Diet.	Low Diet.	Milk Diet.
Daily ..	16 oz. Bread. ¼ pint Milk. ½ lb. Meat and ½ lb. Potatoes, 4 days. 1 pint Soup or Rice three days.	16 oz. Bread. ¼ pint Milk. 1 pint Soup or Rice.	8 oz. Bread. ¼ pint Milk. Oatmeal for Gruel.	17 oz. Bread. 2 pints Milk.

"Dr. Carpenter* observes that 'there can be little doubt that, as a whole, the diet of patients in English hospitals is much too high, being far better than that to which the same class of persons is accustomed in health: this is attended with injury to the patients, and with increased expense to the institution; and it has further the injurious effect of tempting the patients to stay in the hospital for a longer time than is necessary.'

"Taking the dietaries of the metropolitan hospitals as fair samples of those of the English hospitals generally, I am quite willing to admit that the full diet of these establishments is, in many cases, 'better than that to which the same class of persons is accustomed in health;' but I by no means agree with Dr. Carpenter in his sweeping assertion that it is 'much too high.' That life may be supported on a more restricted diet cannot be denied; but I agree with the Rev. Mr. Porteus, in his letter† to the citizens of Glasgow, that 'it is a difficult matter to ascertain what is necessary to preserve life,' and that 'wherever the starving point lies, the managers of charity funds should endeavor to be above it.'

"In framing dietaries for the public hospitals, it is necessary to adapt them to the wants of the average of the patients. No diet scale can be formed which will not be open to objection in individual cases; but I contend, as a whole, the dietaries of the metropolitan hospitals are unobjectionable. To take the hospital (London Hospital, Mile End), with which I am connected, as an example, I may observe, that it is much more common to hear the patients complain of the insufficiency, than of the superabundance, of its full diet. Many of them are strong, healthy men, as sailors, accustomed to eat heartily, and who have received some accident which has led to their admission into the hospital. Others are convalescents from long and lingering illnesses, with depressed vital powers, which require, not merely to be maintained, but to be renovated or raised to the healthy standard. The rations allowed are not, in general, greater, but oftentimes less, than can be eaten with appetite; but should, in any particular case, the quantity served out be more than is requisite, it is the duty of the medical officer to place such patient on a more limited diet.

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* *Principles of Human Physiology*, p. 384.

† See Mr. Mott's report, in *The Second Annual Report of the Poor Law Commissioners.*

"The objection raised by Dr. Carpenter to the diet of the English hospitals, that it has 'the injurious effect of tempting the patients to stay in the hospital for a longer time than is necessary,' would be valid, if these establishments were compelled to retain the patients as long as they are disposed to stay; but such is not the case. They are discharged by the surgeon or physician, under whose care they have been placed, as soon as their state of health permits this to be done with safety."*

Remarks.—It is evident that no general rules can be laid down for the dietetical management of particular diseases, which are not liable to numerous exceptions, depending on age, sex, temperament, and previous habits of living, as well as the pathological condition of the different organs. The doctrines of Broussais, which a few years since prevailed to a very great extent among the practitioners of this country, have exerted a very decided influence in the dietetical treatment of all disorders of the digestive organs, especially of the gastro-enteritic surfaces; and if they have tended to correct the evil of a too liberal indulgence of food in such affections, there is reason also to believe that they have, in many instances, been productive of injury, by leading to such a diminution in the quantity of aliment, as is insufficient for the necessary wants of the system. It seems, for example, to be generally admitted, that demulcent, mucilaginous, and farinaceous substances, are the only articles proper to be administered in such cases, especially in cholera infantum; whereas it is very doubtful whether they are as well adapted for the treatment of many of these cases as a preparation of animal food. In the disease above mentioned, as well as some other analogous affections, a jelly prepared from the sounds of the cod, or Russia isinglass, or calves' feet, or even boiled salt pork, frequently answers better than any kind of farinaceous food, which passes the alimentary canal apparently undigested. The same is true in some forms of dyspepsia. This, however, is in accordance with the well-known fact, that animal food is of easier digestion than vegetable, as it requires less change to assimilate it to the wants of the system.†

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* Appendix, 22.

† Dr. Pereira truly remarks, that the "frequent occurrence of disease among Europeans, who reside in tropical countries, is probably in part owing to their continued employment of a dietetical system fitted for colder climates." It is one of the functions of the liver to eliminate carbon and hydrogen from the blood, in the form of cholesterine and resin of the bile, and we know that carbon is also separated from the blood in the lungs, and by the skin It is given off by respiration combined with oxygen, but when separated by the liver, it is still in the oxydizable state. Tiedemann and Gmelin, as well as Autenreith and other physiologists, have directed attention to a vicarious action in the functions of the lungs and liver, respecting which

With respect to what Mr. Pereira calls "low diet," we are satisfied it is carried too far by many physicians in the treatment of disease, and that recoveries would be much more frequent and rapid under a more generous allowance of food. Where the stomach craves a more liberal and nourishing supply of food, it should generally be granted; but the *quality* is of the utmost importance. This is well illustrated by the following remark from one of Dr. Stoke's lectures. Speaking of the causes

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Muller remarks, that "although it does not appear that the size of the liver is, throughout the animal kingdom, in the inverse ratio of the size of the respiratory organs, yet pathological observations are certainly in favor of the existence of such a relation." Carbonic acid is also separated in connection with lactic acid, lactate of ammonia, and muriate of ammonia, from the skin.

Dr. Crawford proved by experiment, that less carbonic acid was evolved in proportion to the height of the temperature; and it is fully established that the function of the lungs is rendered inefficient by the rarefaction of the air by the heat. Supposing the function of the skin to remain the same, it is evident that there must be an increased excretion of the carbon from the liver, to preserve the blood in that state of purity which is compatible with the due preservation of health. Accordingly Tiedemann and Gmelin maintain that the increased secretion of bile in tropical countries is required to compensate for the diminished purification of blood in the lungs.

Dr. Edwards also found that less carbonic acid was evolved in summer than in winter; and Dr. Prout and Dr. Fyfe found that the quantity of the same was diminished by *vegetabte diet.*

These, however, are but part of the facts connected with this subject. The state of the dew-point, or the hygrometric condition of the air, has an immense influence upon the quantity of carbonic acid eliminated both from the skin and lungs. From some experiments which we instituted several months since, we satisfied ourselves that this condition of the atmosphere has far more to do in effecting changes in the relative proportions of the various constituents of the blood, and hence in the promotion of health, or the causation of disease, than the temperature, to which so much has been attributed. When the air is nearly saturated with moisture, causing that kind of weather called *close* or *sultry*, there is a languor of the mind, a debility of the muscular system, together with a duskiness of the skin, which proves that the blood is not properly decarbonized and oxygenated. These effects may be illustrated by the influence of the *Sirocco,* which is an excessively damp wind, or, in other words, a wind with a high dew-point.

It required but a single step to connect these facts with the production of disease in tropical climates, especially affections of the liver and abdominal organs. That there was something more than high temperature, or what is vaguely termed *malaria*, involved in their causation, was very evident; for in addition to a multitude of other facts which might be mentioned, Mr. Stevens states that in the West Indies the inhabitants of the smallest islands, which are the driest and hottest, are not subject to diseases of the liver and increased secretion of bile. Mr. Hopkins has endeavored to identify *malaria* with a high *dew-point*, but they are essentially distinct. No one can doubt the existence in some localities of a poisonous miasm in the atmosphere, which gives rise to disease. A high dew-point, or an atmosphere saturated with moisture, doubtless gives efficiency to this agent by checking its elimination from the system, but it acts chiefly by preventing the separation of carbon by cutaneous and pulmonary transpiration, thus throwing double duty upon the liver, and often greater than it can duly discharge. Hence arise congestions of this organ, and of the abdominal viscera, whose venous blood it receives; and hence follow dysenteries, cholera-morbus, fevers, and a long catalogue of tropical diseases.

We now see the importance, in tropical climates, of cutting off animal food, which abounds in carbon, and living upon a moderate allowance of mild vegetable diet. We know several persons who have resided for many years, on the most sickly portions of the African coast, in the enjoyment of perfect health, by confining themselves to vegetable food, chiefly rice, and avoiding alcoholic liquors. Gen. Sheldon, of Massachusetts, a vegetable-eater, lived several years in the most sickly parts of the Southern United States, with an entire immunity from disease, and he states, that in his opinion, man may enjoy perfect health in any locality, provided his dietetic and other habits are correct.

of relapse, in convalescence from fevers, he observes :—" In some cases, indigestible matters of a cold nature, such as some of the *cucurbitaceæ* and *brassicæ*, produce a directly prostrating and really poisonous effect on gastro-intestinal nervous expansion, which is transmitted to the brain, and is followed by insensibility, coldness of the surface, small and almost extinct pulse." I have recently known an apoplectic state of the brain, which proved speedily fatal, brought on in a child five years of age, convalescing from scarlet fever, by eating freely of broiled ham, and such instances are by no means unfrequent; and yet this child might have ate with impunity (in moderation) rice or bread pudding, milk, soaked crackers, toasted bread, &c. One of the most distinguished physicians in a neighboring State, lately told me, that he generally permitted his patients to take their own course as to their diet; directing them to eat just such articles as they took a notion for, and nothing else, and that he rarely, if ever, knew any injury arise from such permission. At first, I thought this rather singular, but I could not dispute his word, for he was an honorable man ; but at the same time I told him that I had such perverse, or peculiar patients to deal with, that if I allowed them the same privilege, half of them would kill themselves downright, by actual stuffing. I thought less, however, of this gentleman's opinion on this subject, when he told me that he treated dysentery with brandy, fevers with opium, wine, &c., and pneumonia with stimulants, and that he rarely, if ever, bled anybody for anything.

The importance of what Mr. Pereira calls "dry diet," is by no means appreciated in the treatment of certain forms of disease. Attention has been lately called to this subject by Dr. Williams, of London, in his work on "Diseases of the Chest." Speaking in relation to the treatment of colds, catarrhs, &c., he strongly recommends, from his own experience as well as its effects upon others, what he calls "*drying it up, by cutting off the supplies*"—that is, by withholding fluids in every shape, as much as possible. He was led to this treatment by observing the effects, in his own person, of drinking a quantity of tea or other diluents, it being invariably followed in the course of an hour, by an increased "stuffing in the head," and accompanying flow of scalding, irritating humor from the nose and eyes. The results of this practice, he states as follows :— "For twenty-four hours I did not take a drop of liquid of any kind, and to my agreeable surprise, not only did I escape these occasional aggravations of the complaint, but the stuffing and discharge began to show evident signs of abatement, and the handkerchief was in less continual requisition. I persevered for twenty-four hours more, and my cold was gone ; there being only now and then a little gelatinous, opaque mucus collected in the nostrils and throat, without any stuffing or irritation, just as it takes place at the end of a cold. What was of still more consequence, no cough followed ; the whole catarrhal disease seemed to have been destroyed." The physiological principle on which the dry method acts, is by diminishing the mass of the circulating fluids, thus lessening the partial plethora of the vessels supplying the morbid secretion from the affected membrane, which, no longer irritated by its own secretion, is soon restored to a healthy condition. The natural fluid secretions continue, although in diminished quantity; the urine is still excreted, although its watery part is diminished ; and the skin continues to perspire either insensibly, or under the influence of increased warmth or exercise, in an obvious manner. If, however, liquid be freely taken too soon, before the membrane has lost its diseased action, the discharge will return, and the complaint will be as bad as ever. But if, after the discharge has been stopped by twenty-four or thirty-six hours of dry diet, means be taken to keep up the other secretions, as by exercise, with a warm state of the surface, a little liquid may be taken with impunity, the bulk of the circulating fluid being still below the point at which it can supply any amends from the irritation in the diseased membrane. I have found this treatment successful in my own practice in these cases, as well as in many kinds of congestion, hemorrhage, and local determinations of blood, where I wished to reduce plethora without diminishing strength; which is known to depend, in a great degree, on the proportion of fibrine and coloring particles in the blood. Care, however, is necessary that this treatment be not carried too far; the blood may be rendered too thick as well as too thin; and in the former case, excrementitious matters will be retained, which ought to be carried out of the system. In diseases of the heart, where the circulating fluid is too great, moderate dilution is a safe and useful substitute for blood-letting, which is usually practised; and the same is true in relation to the treatment of ascites, and other forms of dropsy, where we wish to get rid of the fluid by the increased absorption which we know is promoted by withholding fluids as well as by blood-letting. We throw out these hints as suggestive, rather than with the design of pointing out the cases to which this treatment is applicable, which, after all, must be left to the judgment of each practitioner.

In carrying out the *dry treatment*, however, it is very necessary to pay particular attention to the diet, as well as other circumstances. In catarrh, this treatment succeeds best in the early irritative stage, when the irritation is confined to the nasal and pituitary membrane. If fever be present, a cathartic followed by antimonials will be very proper, as tending to promote that free state of the secretions, on which the success of the dry plan depends. The solid food should not be of a rich or heating kind, but consist of bread, soda crackers, rice, with a little butter; and in mild cases, white fish, gelatinous meats, light puddings, and dried fruits. Patients have no right to complain of such fare; for Dr. John Burdell ("Life of Cornaro") and Dr. Alcott, both tell us that they have drank no fluids for years, and yet enjoy the best of health. But then these gentlemen eat plenty of succulent fruits and vegetables. If they should find it necessary to resort to this treatment, all they have to do, is to cut off their fruits, &c., and take to dry crackers. Dr. Williams, in his last edition, remarks that he "has not changed the diet in any particular but in the point of abstinence from liquids; and although with regard to this point, total abstinence is, of course, the most effectual, I have found lately that a deviation to the amount of taking about a table spoonful of tea, or milk with breakfast and the evening meal, and a wine-glass full of water on going to bed, does not interfere with the process of the plan, and it certainly adds to one's comfort."

Forty-eight hours of abstinence will, according to Dr. Williams, in general, suffice to effect a cure in cases of colds and catarrh, and the treatment does not interfere with one's ordinary pursuits, nor does it require "nursing" or confinement to the house. The time, however, will vary in different individuals, according to the quantity of their circulating fluid, the activity of their secretions, and the intensity of the catarrhal disease. Something, also, will depend on the hygrometric state of the air. The period may be shortened by taking suitable measures to increase the secretions, as exercise and warm clothing, lying warm in bed, or by purgative medicine.

DIETARY OF THE NEW YORK HOSPITAL.

For dinner, on *Tuesdays, Wednesdays, Thursdays, and Saturdays*, beef soup, with beef and potatoes and bread. On Mondays, Wednesdays, and Fridays, mutton soup, with mutton, potatoes, and bread. On Mondays, boiled rice, with one gill of molasses. For *breakfast and supper*, bread and black tea; 1 ounce of tea to every six, and a pint of milk to every eight patients.

Remarks.—The above is the *general diet* of the patients at this establishment, including about two-thirds of the number. Special diet is directed by the attending physicians, and adapted to the circumstances of each particular case.* Eggs, milk, oysters in their season, crackers, chickens, &c., are allowed, together with porter, wine, &c. About 78 quarts of milk are daily used, and about two dozen of eggs; 2 being allowed to a patient, when ordered. The number of chickens consumed, averages only about 2 daily. Little or no butter, and no cheese is allowed. 100 lbs. of beef are furnished three times weekly; and 100 lbs. of mutton, three days also. This will give but a half pound of meat daily, for six days in the week, without any allowance for waste. The following are the amounts of some of the articles of food annually used in the establishment, with their cost.

Beef,	35,178 lbs.	$2,085.22	Cheese,	100 lbs.	10.47
Mutton,	16,214 "	763.56	Molasses,	734 gals.	160.10
Pork,	2,181 "	106.86	Vinegar,	7 bbls.	22 75
Poultry,		96.00	Tea,	1,510 lbs.	747.33
Fish,		81.00	Sugar,	12,636 "	772.78
Flour,	397 barrels	2,323.37	Coffee,	1,289 "	147,25
Meal,	2,468 lbs.	56.00	Eggs,		38.49
Rice,	6,804 "	210.35	Milk,	31,139 quarts	1,481.75
Crackers,		25.42	Spices,		17.60
Potatoes,	1,008 bushels	237.71	Salt,	18 sacks,	37,12
Vegetables,		62.81	Yeast,		20.74
Butter,	3,028 lbs.	485.05	Liquors and Wines,		158.30
Fruit,		61.54	Porter,	297 dozen	184.75

The patients are allowed to eat *ad libitum*, within moderation. About one-third pay for their board, either in whole or in part; but in either case, their fare is the same, unless it is furnished from out of the house.*

I am not aware that there is much room for improvement in the dietary of this Hospital; the patients have an abundance of nutritious and palateable food, where circumstances do not forbid, and probably as good as would be furnished in an ordinary private boarding-house. As a general rule, I would agree with Mr. Carpenter, that patients who are laboring under slight diseases, the greater number of those under surgical treatment, and convalescents from acute diseases, should have a diet much like that of their ordinary food, but rather less in quantity. It is evidently impossible to lay down any fixed standard for all; as constitution, previous habits of living, present condition, &c., must greatly modify any system which might be laid down. If Cornaro, whose health had been broken down by excesses, lived 58 years on 12 ounces of food per day, and that chiefly vegetable, it by no means follows that every one can do the same. If respiration, circulation, secretion, and mental manifestations, could be reduced to the low condition which we observe in hybernating animals, it is very probable that we might live a long time without any food at all; but as long as we are characterized by any functional activity, and organic changes are going on, so long we shall have to eat, and the quantity will have to bear a ratio proportionate to this activity, and these molecular changes.

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* There is probably no institution in the United States, under better regulations in every respect, than that of the New York Hospital. During the year 1843, according to the Report of the Governors, 2,000 patients received the benefits of the Hospital during the year, of whom only 170 died, and 1,239 were cured. It is gratifying also, to learn from the same Report, that "the advantages to be derived from the practice of the Hospital, and attendance upon the clinical lectures, delivered by the eminent professional gentlemen connected with it, together with the use of the library, have attracted a greatly increased number of students from different parts of the State."—(P. 1.)

DIETARY OF THE PENNSYLVANIA HOSPITAL.

I know not how I can give a better account of the dietary of this Hospital, than by publishing the following letter, kindly furnished me by Mr. Clapp, the excellent Steward of the institution. It will be seen that the plan of the English Hospitals is adopted, viz., dividing the diet into four grades; which undoubtedly facilitates the duties of the attending physician, if it cannot be so well adapted to the particular circumstances of the patient.

" *Pennsylvania Hospital*, 10*mo.* 31, 1843.

" Respected Friend:—Thy letter of September 8th, was not received till yesterday, from what cause I know not. I hardly know how to communicate the information respecting the dietetic system pursued in this institution, but I will endeavor to do so as well as possible.

" The ward prescription-books are ruled in three columns, one headed " shop prescriptions," one " ward prescriptions," and the third " diet." We keep also a *diet table* numbered 1, 2, 3, and 4; each patient's name is written in the margin of the ward-book, and in the columns opposite his name are his prescriptions and diet, either No. 1, 2, 3, or 4, marked simply in figures, or with one or more of the articles contained in the diet table under that figure. For instance, a patient is marked for diet No. 1; by referring to the table, the nurse finds No. 1 to consist of barley-water, gruel, arrow-root, sago, tapioca, and rice-water. No. 2 includes gruel, tea, bread, rice, molasses, mush, and vegetables. No. 3, bread, tea, rice, molasses, mush, soup, and vegetables. No. 4 is the regular house diet, and has, in addition, chocolate and meat. Soup is an every day dish. The meat is beef and mutton, either boiled or roasted, and sometimes veal and lamb. This is the ordinary diet of the patients.

" When specially ordered by the physician, the following articles are furnished, viz., coffee, eggs, fruit, butter, chicken, oysters, milk, &c., which is done in a book kept for the purpose.

" Accompanying this, I send our last annual Report. On page 4 will be found the total amount of provisions for one year, under the head of household expenses, and on page 12 will be found the average number of patients for the same time; but to this should be added the family and domestics, who number, altogether, thirty-five.

" If anything further can be furnished, please let me know, and I will do it with pleasure. " Respectfully,

" Dr. Lee. " Allen Clapp, *Stew'd*, *P. Hospital.*

" P. S. I may add that we have no particular diet for particular days.

" We use no bread in the institution but such as is made of the best superfine flour, and the meat is of the best quality."

Remarks.—It appears from the "Annual Report" accompanying this letter, that only 886 patients were treated in this hospital during the year 1843, and that the average number under treatment at any one time during the year was ninety-three, of whom twenty-six were pay, and sixty-seven poor, patients. As the number treated in the New York Hospital during the same period was 2,100, it exceeds that of the Pennsylvania Hospital by 1,214; the number of patients treated during the year being nearly three times as great in the former as in the latter.

The following are some of the items of provisions, with their cost.

Meat, 25,273 lbs. .	cost	$1,261	
Fish, . . .	"	99	
Poultry, . .	"	167	
Eggs, . . .	"	114	
Butter, 2,348 lbs. .	"	411	
Cheese, . .	"	16	
Flour, 165 bbls. .	"	781	
Biscuit, . . .	"	51	
Rice, 2,979 lbs. .	"	95	
Meal, . . .	"	7	
Salt, . . .	"	22	
Vinegar, 32 galls. .	"	3	20
		$3,035	20

Brought forward,		3,035	20
Loaf Sugar, 55lbs. Brown do., 5,619 lbs.	"	407	
Molasses, 384 galls.	"	86	
Tea, 424 lbs. . .	"	243	
Coffee, 874 lbs. .	"	88	
Chocolate, 625 lbs. .	"	95	
Fruit, ...	"	42	
Vegetables, . .	"	67	
Beer and Cider, .	"	4	50
Milk, 864 qrts. .	"	43	
Total,		$4121	70

In comparing this with the list of provisions furnished the New York Hospital, it will be found that the latter furnishes a much more liberal allowance of milk than the former, in the ratio of 31,139 quarts (cost $1,481) to 864 (cost $43). The Philadelphians, however, are more liberal in poultry, butter, and eggs, which compensate, in a measure, for the want of milk; but then, again, New York goes ahead in the article of tea, in the ratio of 1,510lbs. to 424lbs. Again, while the Philadelphians have allowed their 886 patients but $4 50 worth of beer and cider, no wine, brandy or other liquors, the more generous New Yorkers have dealt out 297 dozen of porter (3,564 bottles) and $158 30 worth of wines and liquors. On the whole, if patients had their choice to make of the two institutions, and were governed solely by a regard for good living, if not tetotallers, they would doubtless prefer New York; but if they were, we suspect that the Pennsylvania butter, eggs, and poultry, would draw them that way.

" 7. DIETARIES FOR THE INSANE.

"'I have selected the diet tables of Hanwell Lunatic Asylum, Bethlem Hospital, and St. Luke's Hospital,' says Mr. Pereira, 'as examples of the dietaries of public establishments for the reception of the insane.'

"It has been remarked by Dr. Conolly* that in the Lunatic Asylums, 'there are patients who require food in much greater proportion than others; there are also some whose restlessness at night seems to be allayed by food, although they do not complain of hunger. The capriciousness of some patients respecting food is only to be overcome by temporary indulgence and little extra allowances. Without this consideration a great amount of discontent will occasionally prevail in the wards, particularly among the female patients; and attention to this point is to them more important than the application of medicine.'

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* The Report of the Resident Physician of the Hanwell Lunatic Asylum, presented to the Court of Quarter Sessions for Middlesex, at the Michelmas Sessions, 1840.

"The same writer, in another place,* observes that the cases of refusal of food by insame persons are chiefly of two kinds:—'*one*, in which food is refused in consequence of some delusion, or some vow, or from mere obstinacy; the patient being in tolerable bodily health, or certainly not incapable of digesting food;—*another*, in which it is utterly repugnant to a stomach in a high state of disorder.'

"In the first description of cases, if all other means (such as varying the food, persuasion, &c.), 'tried with the utmost patience, fail, it is justifiable, and even necessary, to introduce food into the stomach by artificial means.' This is usually effected by the stomach-pump. 'In the second, the condition of the patient is entirely different. The tongue is red and thickly coated; the bowels are disordered; there is present a low kind of fever; the brain is highly excited, and the patient almost too feeble to stand or walk except by sudden and frantic efforts. His face is pale, the eyes are sunk, and wild in their expression; and the whole frame is emaciated to an extreme degree. All these are so many sure signs of death ensuing on long-continued disease of the brain, with all its complications. Nowhere except in a Lunatic Asylum would such signs of sinking life be recorded as the result of food being refused. The aversion to take food arises, in such cases, as in cases of fever, from the general and terrible disorder of the system; from a diseased condition of the stomach itself, among other organs, associated with a brain disturbed to excess. To force food into the enfeebled and dying stomach of such patients would not be sanctioned by any well-regulated hospital, or by any competent physician; and their distinction ought not to be overlooked because they occur in an hospital for the insane.'

"1. THE HANWELL LUNATIC ASYLUM.

Breakfast		*Males.*—Milk thickened with Oatmeal and Flour, 1 pint; Bread, 6 ounces. *Females.*—Bread, 5 ounces; Butter, half an ounce; Sugar, 4 ounces per week; Tea, 1 pint.
Dinner . .	Sunday . . . Tuesday . . Wednesday Friday . . .	Meat, 5 ounces, cooked. Yeast Dumpling, 4 ounces. Beer, half a pint. Vegetables.
	Monday . . Thursday .	1 pint Soup. Bread, 6 ounces. Beer, half a pint.
	Saturday . .	Meat Pie Crust, 12 ounces. " " Meat, 1½ ounces. Beer, half a pint.
Supper . . .		*Males.*—Bread, 6 ounces; Cheese, 2 ounces; Beer, half a pint. *Females.*—Milk thickened with Oatmeal and Flour, 1 pint; Bread, 5 ounces.
Extras . .		*To Workmen.*—Out-door Workers to be allowed half a pint of Beer at 11 o'clock, A.M., and at 4 P.M., daily; and one ounce of Tea and 4 ounces of Sugar per week. *To Laundry Women, &c.*—Laundry Women to be allowed half a pint of Beer at 4 P.M., and, together with helpers, &c., 1 ounce of Tea and 4 ounces of Sugar per week, and in lieu of the ordinary supper.

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* The Third Report of the Resident Physician of the County of Middlesex Pauper Lunatic Asylum at Hanwell, Oct. 1st, 1841.

"2. BETHLEM HOSPITAL.

Breakfast		Gruel.
Dinner	Every day	Table Beer.
	Sunday Tuesday Friday	8 ounces cooked Meat. 8 ounces Bread. Vegetables.
	Monday	Baked Batter Pudding. 4 ounces Bread. 1 ounce Cheese, or ½ ounce Butter.
	Wednesday	Pea Soup, with Legs and Shins of Beef; 8 ounces Bread. In the summer months, Baked Rice Pudding, 4 oz. Bread, 1 oz. Cheese, or ½ oz. Butter.
	Thursday	Boiled Suet Puddings, 4 oz. Bread, 1 oz. Cheese, or 1 oz. Butter.
	Saturday	Rice Milk, 8 oz. Bread, 2 oz. Cheese, or 1 oz. Butter.
Supper		8 ounces Bread, 2 ounces Cheese, or 1 ounce Butter. Table Beer.
Extras	*For the Sick*	Mutton Broth, Beef Tea, Puddings, Fish, Meat, Eggs, Wine, Strong Beer, &c. &c., or whatever may be ordered by the medical officer.
	Christmas Day	8 oz. Roast Beef, 8 oz. Bread. (*Mem.*—If it fall on an ordinary Meat Day, the patients have a Meat Dinner on the following day.) A Mince Pie, 6d.
	New Year's Day	Plumb Puddings, in addition to the ordinary dinner.
	Good Friday	A Bunn, 1*d*.
	Easter Monday	8 oz. Roast Veal, 8 oz. Bread, Vegetables.
	Whit Monday	8 oz. Roast Veal, 8 oz. Bread, Vegetables.
		During the summer, about the month of August, 6 oz. Bread, Bacon, Beans, 8 oz. Bread, 1 oz. Butter; Fruit, consisting of Currants and Gooseberries.
		In the month of October, Apple Pies, in addition to the ordinary dinner.

"3. ST. LUKE'S HOSPITAL.

Breakfast		*Males.*—2 pints of Gruel, made of equal parts of Milk and Water, with 2 ounces of Bread. *Females.*—1½ pints of Gruel, with 2 ounces of Bread.
Dinner	Daily	*Males.*—1 pint Beer. *Females.*—¾ pint Beer.
	Sunday Tuesday Thursday	*Males*—¾ lb. cooked Meat; Vegetables; 6 ounces Bread. *Females.*—½ lb. cooked Meat; Vegetables; 6 ounces Bread.
	Monday Friday	*Males.*—2 pints Broth,* and 6 ounces of Bread. *Females.*—1½ pints Broth, and 6 ounces of Bread.
	Wednesday	*Males.*—1 pint Broth, 4 ounces Bread, ¾ lb. Baked Suet Pudding. *Females.*—1 pint Broth, 4 ounces Bread, ½ lb. Pudding.
	Saturday	*Males.*—2 pints Rice Milk, or 1 lb. Baked Rice Pudding, and 6 ounces Bread. *Females.*—1½ pints Rice Milk, or ¾ lb. Pudding, and 6 oz. Bread.
Supper		8 ounces Bread, and 2 ounces Cheese or Butter; or, on Wednesday, 1 pint Broth and 8 ounces Bread. *Males.*—1 pint Beer. *Females.*—¾ pint of Beer.

DIETARIES FOR THE INSANE IN THE UNITED STATES.

Much attention has been paid in this country to the effects of diet in the treatment of insanity, and the results of experiments in different institutions show that a plentiful allowance of animal and vegetable food, of the most wholesome and digestible kind, is required. The adoption of a liberal diet is not only free, in such cases, from any exciting or too stimulant influence, but appears to calm the irritation which previously existed. These remarks are only intended to apply to a generality of chronic cases. Of course, no rules as to diet can be laid down, which are not subject to modification under particular circumstances, according to the peculiarities of the case and the state of the constitution. The great success of the late Dr. Todd, in the treatment of the insane at the Connecticut Retreat, at Hartford, was doubtless owing, in a great degree, to a highly nourishing diet, conjoined with a tonic course of medicine.

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* The Broth is made of the liquor of the preceding day's meat, with peas, &c., and two stones of fresh meat for every fifty patients.

BOSTON LUNATIC HOSPITAL.

Diet.—Beef soup, twice a week; baked beef, twice a week; corned beef (cold) once a week; salt fish, once a week; beans and pork, once a week. 250lbs. of beef, at 5½ cents per lb., is the weekly allowance. Average number of inmates, 103.

In the matter of diet for the patients, a very liberal one has hitherto been allowed, upon the ground of its importance as a part of curative treatment. But in view of the fact, that a great proportion of the present inmates are hopelessly insane paupers, the Board of Supervision have concluded that no good reason exists for a distinction in diet from that of the House of Industry. They have accordingly suggested the expediency of equalizing the two, which the Superintendent is about to do.

LUNATIC ASYLUM, MANHATTANVILLE, NEW YORK ISLAND.

Breakfast .		Meat, hashed with potatoes, or cold, with bread and butter, coffee, milk and sugar.
Dinner . . .	Monday . . Tuesday .	Roast meat—beef, mutton or lamb, with vegetables, rice, flour, bread, or fruit puddings.
	Wednesday Saturday .	Soup, with rice or Indian mush—pastry on *Wednesday*.
	Thursday . .	Corned beef, with potatoes and other vegetables, pudding, &c.
	Friday . . .	Boiled fish (either fresh or salted cod, fresh halibut, shad, mackerel, &c., in their season).
	Sunday . . .	Cold meat, with warm vegetables, pastry, cheese.
Supper . . .		Bread and butter, tea or milk; molasses gingerbread on *Wednesday*; sugar cakes on *Sunday* evening, cheese do.

Remarks.—The above articles are of the very best quality, and allowed *ad libitum.* Seven cows are kept on the premises, and the milk, which, with what is bought, amounts to eighty quarts per day, is all used in the establishment. The pastry and puddings are made exactly as in the best private families. There is a great abundance of fruit on the premises, such as cherries, strawberries, currants, blackberries, &c., which are freely allowed to the patients in their season. No difference is made in the diet of males and females. Breakfast, in summer, is at half-past 6 o'clock; dinner at 12; tea at half-past 6. In winter, tea is at 6 and breakfast at 7. The number of patients in the institution is about one hundred. The other inmates, including officers, servants, farmers, and attendants, amount to fifty.

The following abstract of the amount of provisions used in the establishment during the month of June, 1843, is copied from the Steward's Register:

3981 lbs. of Bread, or 833 Loaves.
415 " of Butter.
63 " of Cheese.
72 " of Black Tea.
757 " Brown (Porto Rico) Sugar.
76 " Refined White Sugar.
458 " Flour (for Pastry).
63 " Rice.
150 " Laguira Coffee.
84 Bushels Potatoes.
40 Bunches Salad.
59 Mackerel.
10 Quarts White Beans.
8 Bushels Beets.
18 lbs. Barley.
7 Gallons Molasses.
11 Gallons Vinegar.
41 Bushels Spinage.
3271 lbs. Meat (about 2-3ds beef—1-3d Lamb, Veal, &c.).
100 Dozen Eggs.
For Mustard, Pepper, and Spices, about $56 annually.
Beer and Wine, as prescribed by the Physician.
Tobacco (for Smoking, Chewing, and Snuffing), to the amount of $4 50 per month.

From the above it will be seen that the diet does not differ much from that of a well-ordered, respectable private family.

From an examination of the Bloomingdale Asylum Report for the year 1843, I find that the whole quantity of beef, mutton and veal used in the institution for the year, was 41,990 lbs. (cost, $2,099); poultry, 1,420 lbs. ($120); butter, 5,625 lbs. ($762); cheese, 609 lbs. ($37); lard, 538 lbs. ($32); brown sugar, 9,597 lbs. ($696); white do., 656 lbs. ($82); loaf do., 224 lbs. ($26); molasses, 22 galls. ($6.50); coffee, 2,535 lbs. ($186); tea, 878 lbs. ($458); flour, 198 bbls. ($901); Indian and buckwheat meal, 6 bbls. ($30); rice, 497 lbs., pearl barley, 222 lbs., 719 lbs. ($29); fish, $2.41; fruit, $137; *tobacco* and *snuff*,* $53.26; liquors, $19.22.

We have no means of comparing the diet in this Institution with that of the Pennsylvania Hospital for the Insane, except from the items of articles contained under the head of "Household Expenses," in the Annual Report for 1843. From this we gather that there were 241 patients treated during the year; average number in the house, about 109—37,047 lbs. of meat, $1,857; fish, $150; poultry, $89; eggs, $73; butter, 5,121 lbs. ($897); cheese, 877 lbs. ($70); flour, 224 bbls. ($1,098); rice, 8,684 lbs. ($278); meal, $26; fruit, $182; vegetables, $20; tea, 757 lbs. ($465); coffee, 3,202 lbs. ($301); cocoa, 472 lbs. ($98); sugar, 12,821 lbs. ($937); molasses, 345 galls. ($92); malt and hops, $28, &c. &c.

DIETARY OF THE NEW YORK STATE LUNATIC ASYLUM, UTICA.

The following directions were prepared by the Superintendent, for the guidance of the steward at the opening of the Asylum. We are informed that they have been essentially adhered to, and that the supplies for the household have been abundant and of good quality:

Breakfast.	Coffee, bread, butter, potatoes, cold or warm meat, hashed meat, mackerel, sausages, dry or buttered toast, and buckwheat cakes in the season. These articles varied according to the season of the year, and to afford a frequent change.
Tea.	Tea, bread, butter, biscuit, toast, plain cake, gingerbread, crackers, cheese, apple-sauce, and berries in the season. These so varied as to make some change frequently.

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* No injury, we suspect, would be sustained, were these articles to be dispensed with entirely.

Dinner.	Sunday,	Cold meat, potatoes, pudding or rice, molasses, bread, butter, crackers, cheese, pie.
	Monday,	Boiled corned beef, vegetables, rice, molasses, bread and butter.
	Tuesday,	Roast meat, vegetables, pie or pudding, cheese, bread and butter.
	Wednesday,	Soup, boiled fresh meat, stew-pie, beef steak, fresh fish, poultry, or other articles in the market and not used other days, bread and butter.
	Thursday,	Same as Monday.
	Friday,	Same as Tuesday.
	Saturday,	Boiled salt fish, rice, molasses, or pudding, vegetables, bread and butter.

The sick have a prescribed diet. Milk is abundantly supplied to all the tables, and fruits, especially apples, are often furnished to such of the patients as are not likely to be injured by them.

Ten minutes before each meal, a bell is rung to apprise the attendants in the wings, that it is time to prepare the tables for meals. With the assistance of a few trusty patients they prepare the tables and receive the food from the kitchen.

During meals the attendants wait upon the patients, and take their own meals from the same table afterwards. Sometimes, when all the attendants are not needed to wait upon the table, one or more eat with the patients. This practice, we are informed by the Superintendent, works well, and produces no complaint from any quarter. It is an admirable plan to allay that suspicion and jealousy, so characteristic of the insane, that their attendants fare better than they do. There is but one kitchen, and the food for the whole household is alike, except that the sick have such articles prepared for them as are directed by the physician. "Occasionally," says the Superintendent, from whose first Report we gather the above items, "patients are disposed to eat too much for their own good, and some of full habit and much excited, require an unstimulating diet; but generally, we consider an abundant supply of good, plain, nutritious food the best for our patients."

The following was the daily consumption of the principal articles, in December, 1843, when the number of patients was 203, and the whole number of inmates 260:

3	bushels of potatoes.	
245	pounds of bread.	
37	“	of butter.
2½	“	of coffee.
1⅝	“	of tea.
26¼	“	of sugar.
127	“	of corned beef, Monday and Thursday.
160	“	of fresh meat, Tuesday and Friday.
48½	“	of codfish, Saturday.
68	quarts daily.	

The officers of the house and visitors, we are told, occasionally eat with the patients, and that the tables, in the quantity and quality of the food, neat appearance and general arrangement, will favorably compare with those of good boarding houses. No one, we think, will doubt this when he finds that the bill of fare closely resembles that of the Astor House. Of the 196 patients now in the Asylum, all but eleven take their meals with the others, at tables furnished with knives and forks, tumblers and handsome table crockery. No tin or wooden dishes are used at any of the tables. We agree with the Superintendent that this arrangement in relation to taking their meals, conduces very much to the restoration of the insane, and that those rarely recover who take their food in a rude manner, in solitary cells, swallowing it like ravenous animals.

Dr. Brigham very justly remarks that patients may be supported in a cheaper manner, but not if they are to have allowed them all the chances they ought to have for recovery. The whole establishment is an honor to the State, by whose munificence it was founded and is supported, and the internal domestic, dietetic, hygienic, and medicinal regulations do great credit to the intelligent Superintendent. The only danger is, that so large a number of patients may be accumulated in the Institution, that justice could not be done them, and thus their chances of recovery lessened. In our judgment, 200 patients is the maximum number that ever ought to be placed in one establishment, and under the charge of one Principal. It matters not how many assistants he may have, the Superintendent ought to learn from his own daily personal inspection and observation, the mental and physical condition of every one of his patients. If they exceed 200, he will not be able to do this.

Contrast the above picture with the following, from the pen of Dr. A. B. Whiting, representing the condition of the pauper lunatics supported by the city of New York, on Blackwell's Island, during the past year:

> "Let us take the history of one day," says Dr. W., "and imagine ourselves waked by the unnatural sounds of one of these halls; the unmeaning, idiotic laugh, the muttering voice of the melancholy, the cursing of the morose, the yells and ravings of the maniac, mingled in discordant din, while the eye can rest only on those whose features and bearing accord too well with the unearthly music they utter, packed side by side in thick array, aroused from weary beds, to the various unnatural pursuits, that the mind unemployed always suggests; add to this the close atmosphere, loaded with the sickening smells that emanate from those who are ignorant of the rules of decency, and unconscious of any dictates of cleanliness. Follow them, as dressed in an uncomely garb, they crowd into the breakfast hall; here no cheerful repast awaits them, but to coax a sickened appetite, we find *a piece of bread and a tin cup of indifferent tea, flavored with molasses!* Then commence the other labors of the day; the idiot sinks into his corner, the moody measures with a slow pace the extent of his enclosure, the irritable (a large number) begin to quarrel with each other and themselves till night arrives—welcome, did it bring forgetfulness and repose, but it brings only renewed discomforts. Who could wish the experience of such a day? But these poor wretches thus spend weeks and months. Whose mind does not revolt at the description? who does not see, that such a place and such a life, is but poorly adapted to restore the insane, but rather to aggravate and confirm? To the wilfully vicious and criminal, we are far more humane, and have made provisions that, in some respects, would better comport with the character of a lunatic asylum, and contribute more to their benefit than those that our asylum enjoys!"

And this is the provision made by the great city of New York for her unfortunate insane, and in the nineteenth century. We are, however, happy to learn that some reforms as to domestic arrangement and attendance, have recently been introduced, and there is every reason *now* to believe that others will speedily follow. God speed them!

The effects of the generous plan of diet adopted at the State Asylum, at Utica, are seen in the following table of the *weights of patients* on admission, and when discharged:

Total weight on admission of 276 patients,	34,856 lbs.
Total weight of those discharged and remaining, Dec. 1st,	35,885
Increase of weights of all received,	1,029
Total weight of men on admission,	20,440
Total weight of men at the end of the year and when discharged,	20,981
Increase,	541
Average weight of men on admission,	138 11 oz.
Average wt. of men at the end of the year and when discharged,	141 10
Total weight of women on admission,	14,416 lbs.
Total wt. of women at the end of the year and when discharged,	14,904
Increase,	488
Average weight of women on admission,	112 10 oz.
Average weight of women at the end of year, when discharged,	116 7

With the exception of two, all discharged cured had gained flesh, some of them from 10 to 18 pounds, one 37 pounds. Total increase of weight of the 53 discharged cured, 306 pounds.

Dr. Pliny Earle, in commenting on these results in the April Number of the "Am. Jour. Med. Sciences," remarks that, "if Dr. B. has done as well for the mental and moral natures of his patients as he has for their corporeal, he may rest well satisfied. It may be remarked, *en passant*, that an increase of weight in a patient is no positive evidence of a progress towards mental integrity; on the contrary, it is very common, when 'recent cases' are becoming 'chronic,' or mania is becoming converted into dementia, to see the patient increase sometimes very much in weight." All this is very true, but Dr. B. nowhere asserts that increase of bodily weight is *necessarily* attended with restoration to reason; all he would contend for is, that other things being equal, insane patients stand a far better chance for restoration under a nutritious and even generous system of diet, than they do under a scanty or innutritious one; and we concur fully in this opinion. Experience has sufficiently demonstrated its correctness.

DIETARY OF THE CONNECTICUT RETREAT FOR THE INSANE, AT HARTFORD.

The diet of this Institution, is very similar to that at the New York State Asylum, above given; though, if anything, inferior in point of abundance and variety. The frequent changes in the medical superintendency of this institution have operated somewhat against its interests; but, at present, we learn it is very successfully carrying out the wise designs of its founders. Some, perhaps invidious persons, doubt whether the State has any great claims to liberality for erecting an Institution, where patients can be admitted by paying in advance from $3 50 the lowest, to $12 per week; (two dollars per week, extra, for those who come from other States), as they say as good fare and accommodations, with suitable attendance, could be obtained in private families at a less expense. It is true that the Managers are authorized to receive *ten* indigent lunatics, inhabitants of the State, whose disease has not exceeded *six months*, at two dollars per week; but then, no person is allowed to remain in the Institution over six months on these conditions; and, moreover, even this privilege is not granted except a certificate be obtained from a magistrate of the town in which said lunatic resides, stating, that from the evidence he has in his possession, he is of opinion that said indigent lunatic does not own property to the amount of over $100 ; and that his disease has not exceeded the period of six months. Now, according to the census of 1840, there were 542 lunatics in the State ; but, from a later investigation, it appears that there are at least 1,000, or in the ratio of 1 to 262 of the population,* and these are left to be supported by individuals, often unable to bear so heavy an expense, or to be farmed out by the towns to the lowest bidder—a system most degrading in its character and tendency, and most injurious in its results. We are surprised that a system so reckless of the feelings of friends and relatives, and so contrary to the usages of, in other respects, a civilized people, should still be permitted to be practised. We would carry out this principle so far as to allow no director or manager of a Lunatic Asylum or Hospital, and no "select man," to be interested, directly or indirectly, in furnishing supplies for paupers or lunatics.

The diet at the Connecticut Retreat, I have stated, is not dissimilar to that at Utica ; about half the patients take their meals with the Steward, Matron, and Assistant Physician. The breakfast hour varies according to the season of the year, from 6½ to 8 o'clock ; dinner at half past twelve o'clock, and tea at six o'clock. During Dr. Brigham's superintendency, I can testify from my own observation, that the table was genteelly arranged, and handsomely furnished ; and in these respects, as well as in the abundance and quality of the food, would favorably compare with respectable boarding houses in Connecticut.

DIETARY OF THE MASSACHUSETTS GENERAL HOSPITAL.

The following directions, with respect to diet, are furnished the patients of this Hospital, on admission, on a printed bill or card ; no visitor is allowed to bring any article of food into the Hospital for any patient.

"The diet of the patients will be prescribed by the physicians and surgeons ; and their prescriptions must be rigidly adhered to. The particular articles, to be used as food or drink, will be prescribed ; or, the diet will be prescribed under the following general terms, viz. : *House Diet*, *Vegetable Diet*, *and Liquid Farinaceous Diet.*

"The *House Diet* consists of the following articles, viz. : tea, coffee, shells, cocoa, bread and butter, for breakfast and supper ; and each patient may choose among the liquids above mentioned, provided he gives notice of his choice to the nurse in convenient season ; and for dinner, fresh meat, fresh and salt fish, broth or soup, potatoes, and occasionally other vegetables, bread, coarse and fine, bread pudding, rice and hasty pudding : water for drink.

"The *Vegetable Diet* consists of bread of various kinds, rice, hasty pudding, potatoes, and other vegetables ; milk, cocoa, tea, and coffee.

"*Liquid Farinaceous Diet* consists of gruel made from either Indian or oat meal, sago, tapioca, and rice, with cocoa or milk.

"In regard to *House Diet* it is not meant that every article mentioned for dinner will be on the table every day ; nor that patients are to order those articles at their own pleasure ; but that they are to partake of such as are prepared for the day and placed on the table.

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* There are now some twenty Hospitals for the Insane, in the United States, accommodating some 2,500 patients, while according to the last census there are 17,181 Idiots and Lunatics in the United States.

"When patients believe that particular articles are necessary for them, they will mention this to the medical officer, under whose care they are placed, and he will order the same, if he thinks it necessary. He will also give specific orders for diet in any case in which he thinks them requisite; and he will likewise limit the quantity in such way as he believes necessary for the welfare of his patient in any case. If the nurses observe that any patient takes food or drink in excess, it shall be the duty to make the same known to the medical gentleman, under whose charge such patient is placed.

"When any particular diet is ordered for more than a day or two, it shall be noted on the card on the patient's bed, so that the medical attendant may be reminded of it; and articles particularly expensive shall not be continued longer than necessary for the patient's welfare."

The following additional particulars are kindly furnished me by the Superintendent, Mr. Goodwin. The Dietary of this establishment does great credit to its Managers, and is well worthy of imitation in other institutions of a similar kind. In fact, we are acquainted with no hospital where the comfort and health of the parties are consulted, with so little regard to expense: and certainly none in which there is more assiduity and skill, and less experimental surgery displayed, than in the Massachusetts General Hospital.

"*Massachusetts General Hospital,*
"*Boston, April* 13*th*, 1844.

"To Dr. Charles A. Lee—

"Dear Sir:—Yours of the 25th ult. was not received till this week, by which I was sorry to hear of your disappointment in not receiving the paper I sent you. I hope you will be more fortunate this time. In my last I think I stated to you that the House Diet Dinners was on Monday, corned beef and some kind of pudding; in fact, we have a pudding every day with dinner: Tuesday, roast meat (veal, or mutton, as they may be in season): Wednesday, fresh fish (either fried or boiled): Thursday, roast beef of the first quality: Friday, soup: Saturday, salt fish: Sunday, roast meat and baked beans: besides all the foregoing, more or less have custards, broiled chicken, or beef-steak, almost every day; also every variety of bread and biscuit. If there are any other questions you wish answered, I will do it most cheerfully.

"Yours, respectfully,
"John M. Goodwin, Superintendent."

MASSACHUSETTS STATE LUNATIC HOSPITAL, AT WORCESTER.

This we regard as the model Institution of the kind in the United States, and it is so considered throughout the United States. It is unnecessary to give the precise details of the manner of living; suffice it to say that the food furnished the patients is of the best quality, simple and plain, but substantial and good, with few delicacies. Coffee in the morning, and tea in the evening, are furnished to all. Animal food is used once a day, and sometimes twice, and vegetables in perfection and variety, after the custom of the New England families. The articles of food are the best the market affords, and are prepared with skill and care for the table, and the variety is sufficient for health. Water, with coffee, tea and milk, constitutes the drink of the whole family, officers, attendants, and patients. Neither beer, cider, nor any other article that can intoxicate is admitted in the establishment; all are pledged, as they should be, to abstinence principles. Milk is the diet of such persons as prefer it, and is extensively used in the family every day, the quantity used, averaging from 15 to 20 gallons a day. Invalids often use milk, and preparations of milk, as a large part of their food. Dr. Woodward remarks that "the insane laboring people eat heartily and have no dyspepsia. Most of the insane have good appetites and eat well; some are in feeble health, and have a prescribed diet every day. The native fruits are given freely in the season of them: apples are dealt out plentifully in the winter, and candy-making and corn-parching are among the winter amusements. A few individuals are difficult about their food, and for months together take none without being fed." In these cases Dr. W. has resorted successfully to the practice of introducing fluid aliment into the stomach by means of the stomach pump; from two to three pints of milk daily being found to sustain life very well.

The following items of provisions, with the prices, are copied from the Annual Report of 1841, the number of patients averaging about 230, the whole number treated during the year being 399:

Beef, 24,259 lbs. .	cost	$1,482 21	Biscuit, . .	cost	$109 77
Pork, 2,978 " .	"	203 07	Rice, 1,487 lbs, .	"	71 00
Veal, 3,944 " .	"	251 69	Butter, 10,201 lbs. .	"	1,751 20
Sausages, 489 " .	"	49 90	Milk, 639 quarts, .	"	25 91
Salt Beef, 191 " .	"	13 38	Cheese, 6,382 lbs. .	"	484 16
Salt Pork, 2 barrels,	"	32 00	Eggs, 601 dozen, .	"	90 81
Tripe, 493 lbs. .	"	40 56	Tea. 476 lbs. . .	"	271 25
Muttn & lmb, 2,027 lbs.	"	161 93	Coffee, 1,400 lbs. .	"	167 27
Hams smoked, 642 lbs.	"	67 00	Brown Sugar, 8,975 lbs.	"	730 35
Tongues, sounds, 248 lbs.	"	26 20	Loaf do. 707 "	"	84 70
Poultry, 1,004 lbs. .	"	95 50	Molasses, 495 gallons,	"	157 87
Fresh Fish, 1,483 lbs.	"	72 36	Honey, 230 lbs. .	"	19 58
Salt Fish, 4,875 "	"	110 86	Fruits, Apples, Pears, Peaches, Lemons, &c.		592 07
Salmon, 1 barrel, .	"	18 00			
Potatoes, 1,472 bushels,	"	472 39	Spices, Salt and Small Groceries, . .		160 72
Flour, 231 barrels,	"	1,432 20			

We must here bring our article, already too protracted, to a close. We might here present a great many more details, in relation to other institutions of a similar kind, but our limits forbid, and it is moreover unnecessary. Our design was merely to call attention to the subject, as one which has not hitherto attracted much attention from the profession in this country; although its importance is not less than that of *medication*, on which, as it seems to us, too much confidence is placed, to the neglect of dietical regimen and domestic management. If this end is attained, our object is accomplished.

New York, April 16*th*, 1844.

Art. VIII.—*Case of Diabetes Mellitus.* By William Grayson, M.D., of New York.

In January, 1843, I was requested to see, professionally, Mrs. H——, a lady sixty years of age, plethoric, of full habit and lymphatic temperament. She had enjoyed good health, with but little interruption, until within a short period of the above date. At this time, there were lassitude and great loss of strength, pallor of countenance, pulse quick and frequent, small and feeble, with dry skin, furfuracious or scaly cuticle, and constant thirst. The papillæ of the tongue covered with a white, thin crust, as if milk had been spilt on it. On inquiry, I was informed that for some weeks there had been a preternatural flow of water from the kidneys, which, at this time, amounted to three quarts in the twenty-four hours, and was evidently increasing. It was found to be extremely limpid, imparting an odor not unlike that of violets. A sense of weight and of great uneasiness was felt about the lumbar region, extending to the pelvis. There was considerable loss of flesh, though the appetite was much less impaired than might have been supposed. With these indications, no doubt could remain as to the nature of the malady; but of its particular character, whether *diabetes mellitus*, or *insipidus* (according to nosology), was to be determined by investigation. One pint of the water was evaporated, giving a residuum of sugar, or saccharine matter, of firmer consistence than honey, which weighed ten drachms.

In a short time, the amount of water discharged attained its maximum extent, which was four quarts in the twenty-four hours. I directed a generous diet, principally of animal food, together with the free use of the aqua calcis, or lime water, and a glass or two of good port wine at dinner. No sensible benefit seemed to arise from this course of treatment; and, after sufficient time had elapsed, the following mixture was directed, a tablespoonful of which was taken morning, noon, and night: Tinct. Cincho. Comp. ℥ iv.; Tinct. Valeriani, ℥ ij, to which was added, night and morning, ten drops of Tinct. Lyttæ, gradually increasing it to fifteen drops each time. The lime-water was given *ad libitum*, and a half pint of strong *serum aluminosum* was directed to be taken also morning and night. The water that passed was saved, and measured at the expiration of twenty-four hours; and every few days a pint was evaporated to see the amount of sugar it then yielded. In a little time, the amount of both water and sugar, under this treatment, was found sensibly diminishing; the former, in the course of eight or ten weeks, dwindled down to nearly two quarts, and the latter, at the end of three months, had come down to ʒij, which, in six or eight weeks more, disappeared entirely. For a long time there was great loss of flesh and muscular strength, yet the functions of the different viscera, except that of the kidneys, seemed to be performed naturally, and the appetite continued particularly good under such circumstances. It was astonishing, as well as gratifying, to observe the marked and decided influence of the Tinct. Lyttæ in arresting this malady. Though it was doing, together with its auxiliary remedies, all, and, indeed, more than we had a right to expect, yet, at one time, through the persuasion of a medical friend, I consented to omit it, and use the Tinct. of Iodine in its place. Only a few days were necessary to show the propriety of reverting to the Tinct. Lyttæ, which was done with the same happy effect as before.

From the date of first seeing the patient to that of withholding the remedies in question, was something like five months, when, from her augmented health and strength, nothing more was deemed necessary than the observance of prophylactic rules, attention to diet, and proper exercise, together with the occasional use of the Tinct. Cinchonæ, which was abandoned in a few weeks. Early in the autumn, the lady made a visit into the country; and, at the end of a month, she returned reinstated and invigorated with her accustomed health.

Art. IX.—*Remarks on Convulsions in Children, resulting from Febrile Excitement.* By N. Morrell, Assistant Physician, Long Island Farms.*

In young children, before the fontanelles have closed, if an observer watches the progress of fever verging toward convulsions, he will mark a tolerably uniform succession of phenomena; such as, a state of abdomen, tumid to the eye and spongy to the touch, skin very warm, respiration hurried and ineffectual, face of a slightly venous hue, and an unusual prominence of the fontanelles. This last, by the way, affords the best opportunity of examining the pulse, the force and frequency of which will be evident both to the touch and the eye. Continuing his observation, he will find the abdomen to become more spongy, the face more dingy, the fontanelles more prominent and pulsating more violently, and respiration more ineffectual; and, finally, he will discover the glottis to be closing, and convulsions about to commence. During the convulsion, he will observe the fontanelles alternately rising and receding, in proportion as the contractions and relaxations of the voluntary muscles are more or less frequent, or as they are moderate or violent. At every contraction, the fontanelles project; at every relaxation, they recede. The pulsations of the heart, as seen at the fontanelles, are less frequent, but more violent than before the convulsion. The muscular relaxations are of longer duration; but at each one, the glottis opens when the little patient has one or two deep inspirations. The fontanelles now resume their natural position, the venous color of the face diminishes, the convulsions cease, and the heart, soon after this cessation, pulsates nearly as frequently, but not so violently as while the fit endured. If the disease be advancing toward a fatal termination, he will observe the fontanelles gradually becoming still more prominent and more violently expanded, the glottis nearly permanently closed, respiration quite ineffectual, black blood circulating in the arteries, the lungs engorged with blood and frothy serum, and, finally, one long, violent, and enduring spasm, which relaxes only with the cessation of life.

This alternate contraction and expansion of the fontanelles, during convulsions, have been repeatedly observed by me to be separate from arterial pulsation, and to be consonant with the contractions and relaxations of the voluntary muscles.

Dr. Alexander F. Vaché was the first to remark this phenomenon, in a case of severe fracture of the skull, from which several portions of bone had been extracted. While in this condition, the patient was seized with convulsions; and during their continuance, he observed the brain, at the uncovered part, expanding and contracting in consonance with the motions of the voluntary muscles. It may, therefore, be regarded as an established fact, that, during every kind of convulsion, the brain is also in a state of violent agitation.

Is this convulsion of the brain the result of action in that organ itself, or is it the consequence of contraction in the voluntary muscles?

Although, in the present state of medical science, it is not possible, perhaps, to trace every change in the series which constitutes fever, in many cases, a state finally occurs in which there are violent arterial action on the one side, and sluggish venous circulation on the other, connected with respiration imperfectly performed, and a tendency to congestion of the lungs. In other words, there is a state in which, on the one side, respiration, imperfectly performed, affords no aid to the return of venous blood from the abdomen and head, but causes congestion of the lungs; while, on the other hand, the heart impels arterial blood with violence toward the head, causing the brain to become compressed. If, as in children, the fontanelles are not closed, they become prominent; and if, as in fractures in adults, large portions of skull have been removed, the brain protrudes; but the pressure still accumulating, it finally reaches the medulla oblongata; and thus, by still further impairing the function of respiration by affecting the eighth pair of nerves at their origin, it closes the glottis and produces convulsions; these spasms being an effort in which the voluntary muscles are engaged to maintain respiration. From the moment the convulsion, and the consequent violent muscular action, commence, venous blood is returned rapidly from the extremities toward the chest; and it is prevented from circulating through the lungs by suspended respiration, and from returning upon the extremities by the valves of the veins; and hence it turns in the direction of those veins which have no valves, and regurgitates upon the brain and abdomen. Now this regurgitation causes that expansion and apparent contraction of the brain observed during convulsions, and also that engorgement of the lungs and brain which is found in such cases, after death.

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* The average number of children at these Farms is 800, and Dr. Morrell has been connected with the Institution for the last ten years. Editor.

From this view, when the observer comes to a case of convulsions during fever, he marks but one indication to restore and maintain free respiration. He cuts one or both temporal arteries. The blood flows in a large stream, the left side of the heart is emptied, blood not perfectly depurated is poured in, the irritability of the ventricle diminishes, and the lungs are emptied; and all this produces a want in the lungs, or, as Dr. Marshall Hall would say, the lungs acting through the reflex function, open the glottis. Thus does the child take three or four deep inspirations, each inspiration diminishes cerebral pressure by returning the blood from the head, the force of arterial action subsides, and the convulsion ceases.

To prevent the convulsion from returning, other indications are now presented, viz., to maintain the glottis open, to unload the portal system, and to restore the suspended secretions. For the first indication, I give from one to five drops of Cajeput oil;* for the second, a large enema of salt and water; for the third, a dose of calomel. If, notwithstanding, the convulsions return, I repeat the oil of Cajeput, and sometimes the bleeding together with the enema, and give in addition a teaspoonful every four hours of the following mixture: Muriate of ammonia and nitrate of potash, each ʒi, nitric ether, ℥i, and water, ℥iii. Next day, after the calomel has operated, if ague and fever be prevalent, and especially if the fever causing the convulsions, should be of an intermittent or remittent type, the quinine, in combination with muriate of ammonia, without waiting for an intermission, ought to be presented. But if the fever has proceeded from a fall, from whooping-cough, measles, or scarlet fever, the combination of ammonia and nitre with the oil of Cajeput, is indicated. By this mode of treatment, if the patient can be seen as early as the third or fourth convulsion, that is, before the lungs have become engorged, the writer believes that in most instances a cure can be effected; but if much engorgement of the lungs has taken place before the patient is seen, bleeding or any other treatment will be of little avail.

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* For the knowledge of this remedy, the writer is indebted to Dr. Gilbert Smith.

Let us now illustrate these principles by the recital of a few cases.

Case I. June, 1836.—A child, *æt.* six, with large head, lymphatic temperament, and apparently in good health on the tenth of June, had, on the eighteenth, a fit of ague and fever. A little dull on the morning of the nineteenth, about noon she was seized with convulsions, was put in a warm bath and given tartrate of antimony, 1 gr. every fifteen minutes, till she had taken four grs. Vomiting was not produced, and as the convulsions continued at intervals, she was bled from the arm, during which the glottis remained closed; but as the bleeding was finished, the glottis opened, and the convulsion ceased. A discharge was now had per anum, and presently a vomiting of a greenish fluid; the skin became livid, the pupils dilated, and death followed at four o'clock, being four hours after the first convulsion.

On examination, the brain was found at least one eighth larger than the ordinary size, and very soft, though examined sixteen hours after death. Though very vascular, it was not much engorged, a little serum being found in the ventricles; the lungs were so filled with black blood, that on opening the chest, they did not collapse; the mucous membrane of the intestinal canal was healthy.

Case II.—A boy, *æt.* eight, of lymphatic temperament, complained, after several days of indisposition, of being very sick, vomited and went to bed at 9 o'clock, A. M. At 2 P. M., he was found in convulsions, and was put into a warm bath. At 3, I saw him, when he had had four severe fits of long duration; the froth was now issuing from his mouth, lips and skin were livid, extremities rigid, glottis closed, and no respiration. Here was little hope; but the temporal arteries were immediately cut; the blood came of a venous hue; the glottis relaxed, but as the lungs were too much engorged, he could not inspire effectually; and he died at half-past three.

On examination, the brain was found vascular, but not engorged, there being about ℥ii. of serum in the ventricles. On opening the chest, the lungs scarcely collapsed, they being filled with blood and a bloody serum; the mucous membrane of the intestinal canal was healthy.

Case III.—An infant, *æt.* eight days, after having been taken to church for the purpose of being christened, was seized with convulsions, which seemed to be tetanic, or, as Dr. Marshall Hall would say, true spinal. The pupils remained without contraction or dilation, and the eye-lids closed on touching the lashes; no muscle was convulsed which received its motion from the seventh pair, while every other was violently contracted. The mother sat up in bed and held the infant by pressing its shoulders back on a pillow; this position seemed to give it relief—the fits were frequent and of long duration. If, at any time during an interval, while the child respired with some ease, the lips were touched, the convulsion was immediately renewed. The same effect took place on touching the arms, the palms of the hands, or the soles of the feet. Medicine could not, therefore, be given either by the mouth or the rectum. The child died thirty hours from the first convulsion.

Permission could not be obtained to examine the body, but the evidences of pulmonary engorgement were unequivocal; while the brain, though it suffered from regurgitation, certainly did not participate as a cause of the paroxysms, which is a clear inference from the state of the pupil and the muscles supplied from the seventh pair.

The writer could add case upon case with its necrotomy, from his list of unsuccessful attempts at treating convulsions, were those already adduced not sufficient to elucidate the ground-work on which his treatment is founded. He has observed during life, and examined after death, and he believes that, in every kind of convulsion, the respiratory system is the first to suffer; that the lungs become primarily, and the brain secondarily, congested; and that the first object in treatment, is to restore the free action of the respiratory apparatus, inasmuch as a few deep inspirations are sufficient to relieve the brain, which is an effect that cannot occur as long as the lungs are congested. From this will be evident the importance of opening the arteries in preference to the vein, in cases where congestion of the lungs is likely to occur suddenly. The blood abstracted from the arteries, empties the left ventricle, and consequently also the lungs; but blood taken from a vein, diminishes only the quantity returning to the lungs already congested. The effect of phlebotomy, therefore, is not prompt enough to relieve in convulsions; and, indeed, it is scarcely to be relied on in any case where the pulmonary circulation has become suddenly obstructed; nor need the physician fear to cut the temporal artery, for the writer has opened it in many hundred cases without finding more difficulty in arresting hemorrhage from the artery than from a vein.

Case IV.—January, 1836.—A boy, *æt.* four, with large head and well-developed organism, while playing in the room on a little sleigh with his brother, fell from it backward on the floor. Shortly after, he vomited and became better, and attracted no further notice; but on the third day after, he was seized with convulsions. In fifteen minutes, I saw him, still convulsed; and I immediately cut both temporal arteries, and bled the little patient to fainting. When the child fainted, the convulsion ceased; and the cure was completed by a cathartic dose of calomel. The boy, now twelve years of age, is active and intelligent, and he has not since had a convulsion.

Case V.—July, 1836.—Thomas O'Brien, *æt.* nine, was brought to the hospital at 9 o'clock, P. M., complaining of pain in his head; and an hour after, he was seized with convulsions. The arteries were cut immediately and blood taken to ℥viii.; the convulsion ceased, but in an hour after, there was another. Ordered a large enema, to be followed by a camphor poultice to abdomen. There was now an interval of repose, but the paroxysm that followed was long and violent. Another interval; directed ipecacuanha, ʒi., which vomited. Another fit; an interval; another enema, camphor poultice on the bowels continued, and a dose of calomel. The fits did not cease to recur during the night; and next morning, the patient was in the same state. At 3 o'clock, P. M., no improvement. Having learned that Dr. Gilbert Smith had given Cajeput oil with great success in similar cases, I concluded to give it a trial. Ordered Cajeput oil, gtt. viij. In a few minutes he had a bilious stool; and the paroxysm did not again return. Two years afterward, the child was bound out, he having never had a convulsion subsequently, but was actually one of the most intelligent boys in the Farms' school. What is very remarkable in this case is, that the child, after lying eighteen hours in convulsions, recovered without injury to his intellectual faculties.

Case VI.—February, 1837.—An infant, *æt.* eight months, after a short period of febrile action connected with teething, was seized with convulsions. When I arrived, the child was in a warm bath, with the third fit; I cut both temporal arteries, and took a wine-glass full of blood. The convulsion ceased and returned, and I gave a drop of Cajeput oil, followed by an enema; after the enema operated, the fit ceased for an hour, when it returned. Administered another drop of oil of Cajeput, with a dose of calomel. The convulsions did not recur; and the child recovered on the use of a few drops of muriate of tin, given daily for three weeks.

Case VII.—August, 1840.—A child, *æt.* eight, after two days of intermittent fever, was seized on the third with convulsions; and it was in the fourth fit when I first saw the patient. I cut both temporal arteries, and bled to ℥ viij.; the convulsion continued—administered a large enema of salt and water, with the operation of which, the convulsion ceased. I now gave three drops of oil of Cajeput, with a dose of calomel. The convulsions did not return; and a large dose of sulphate of quinine, combined with muriate of ammonia, given next day, completed the cure.

Case VIII.—August, 1841.—A child, *æt.* ten, after seven days of intermittent fever, was seized with convulsions; and when I came, the mother, who had the child in a warm bath, said that its present fit had continued for fifteen minutes. I cut both temporal arteries; and as they bled very freely, and as the spasms were violent, I concluded that there was no danger in letting the child bleed *ad deliquium animi*, especially as the stream of blood was large from both arteries. In three minutes the child fainted, and the convulsion ceased. Gave now three drops of oil of Cajeput, with a dose of calomel and eight grs. of sulphate of quinine. The next day the patient was free both from convulsions and fever, and in a week he was as well as usual.

Case IX.—This child's brother, not long after, had intermittent fever and likewise convulsions. Cut both temporal arteries—enema, Cajeput, calomel, quinine—cure. Up to this time, 1844, both these children have been doing well.

Case X.—March, 1841. A child, *æt.* four, after eight weeks of whooping-cough, had a sore throat, with fever, and afterward convulsions. When I first saw the patient, the mother had him in a warm bath. I cut the temporal artery immediately, taking ℥ viij of blood. The convulsions ceased. Ordered oil of Cajeput, a dose of calomel, ammonia and nitre: cure. At the present time, 1844, this child is still well, having not had in the interim a convulsion.

Case XI.—August, 1842. A boy, *æt.* ten, thin and scrofulous, after eating some indigestible food, had slight fever followed by convulsions. Before having a fit, he vomited freely. I saw him three hours after the first convulsion, when the boy was in the fifth paroxysm; there was no sign of much pulmonary engorgement; and the frontal vein was large and greatly distended. I opened the vein, which bled as freely as an artery; and after bleeding to ℥x, the convulsions became less violent. The flow of blood stopped, and the convulsions ceased wholly. Oil of Cajeput, three drops, and a large enema of warm water with salt, were now administered. The paroxysms returned at intervals for eight hours, during which time, calomel as a purgative, also an enema, and more Cajeput oil, were given. Next day about the same hour, the convulsions returned; again the patient was bled to ʒ vi.; and the Cajeput oil, calomel, and enema, were repeated. The convulsions ceased a second time, without again returning; and after three weeks the child was completely recovered. Up to the present time of writing, he has been wholly free from convulsive or any other disease.

Case XII.—September, 1842. An infant, *æt.* eleven months, in an ague and fever district, was seized, in a paroxysm of fever, with convulsions. Opened the temporal artery, and took ʒ ii. of blood. Ordered oil of Cajeput, half a drop, calomel as a purgative, and afterwards quinine with muriate of ammonia and muriate of iron. The convulsions ceased, but the fever did not yield; three months afterwards, the child died of hydrocephalus. On examination, the ordinary characteristics of this disease were discovered; as also general anemia, and serum in the ventricles.

Case XIII.—July, 1842. A boy, *æt.* two, short necked and well developed, had convulsions during a paroxysm of intermittent fever. Saw him three hours after the first convulsion; he had just passed the fourth fit, two of which had been of long duration; the pupils were contracted; the breathing laborious; senses suspended; the veins of the face turgid, especially the frontal vein, which was opened and allowed to bleed to ʒ ii. The senses still remained suspended; bled again from the artery, to ʒ iii. The breathing was now immediately relieved, and the senses began to return. Ordered oil of Cajeput, three drops, calomel grs. viij. In four hours, another convulsion occurred; a large enema of salt and water was administered, which produced a free operation. The fits no longer recurred. In three days the fever yielded, and the child soon recovered.

Case XIV.—October, 1843. An infant, *æt.* nine months, was seized, after having suffered from the whooping-cough six weeks, with fever. When I first saw the little patient, the fever had endured two days; pulse 140, great determination to the head, respiration short and ineffectual, fontanelles prominent and to be seen pulsating. Fearing a convulsion, I opened the artery and let it bleed to ʒ ii. In ten hours after, the fever not having abated, convulsions re-occurred. When I arrived, the child was in a warm bath recovering from a second fit. Gave oil of Cajeput, one drop, with three grains of calomel. Sensibility now returns; head is very warm; fontanelles still prominent and pulsating. In six hours, another convulsion; repeated oil of Cajeput, gt. j., and also a large enema of salt and water; and applied lotion of sulphuric æther to the head. The convulsions do not return; second day, fontanelles still pulsating; fever not abated; oil of Cajeput gt. j, repeated; calomel grs. iij. Third day, nothing better. Opened the artery again and bled to ʒ ii. and ordered the following:

℞ Ammoniæ muriat.
Potassæ nitrat. āā ʒj.
Æther. nitr. ℥j.
Aquæ, ℥iij.

Give a teaspoonful every three hours.

On fourth day, pulse still 140, without force; gave enema of warm water twice a day, and continued the rest of the treatment, in gradually increased doses. On fifth day, much improved; in the evening, the child perspires freely, the paroxysms of coughing grow more frequent, and the pulse at intervals, between the paroxysms, at 100. Sixth day, still improving; no fever. Seventh day, out of danger. On the 20th of November, the child had perfectly recovered.

Case XV.—September, 1843. A child, *æt.* eighteen months, fell down stairs and struck upon its head. A few minutes after it vomited, and soon became better, when the mother took no further recognizance of the matter. In a few days, fever supervened, and it was treated by another physician with small doses of ipecacuanha for three days; and on the evening of the third, it was seized with convulsions. I now saw the child, which was then in a warm bath; it had recovered from the third convulsion, and it was breathing with difficulty. There were mucous rale in the trachea, and great frequency of the pulse. I immediately bled to ℥iii. from the temporal artery; gave oil of Cajeput gtt. ij., and directed the ipecacuanha to be continued. That day I met the physician at the bedside; the fever was unabated. As the locality was malarial, I recommended muriate of ammonia and quinine to be given immediately. The child recovered; and it has never since had a convulsion.

It were easy to multiply cases, were it deemed necessary; but those already adduced cannot but be regarded as abundantly sufficient to establish the efficacy of the treatment here pursued. As respects the value of Cajeput oil in the treatment of infantile convulsions, I may here add that my confidence in its powers has been daily confirmed by that best of tests—experience.

Art X.—*Case of Monstrosity, with an Illustration.* By William Darling, M.D., Prosector of Surgery in the University of New York. *Case of Monstrosity.* By P. A. Jewett, M.D. of New Haven, Conn.

New York, April 10*th*, 1844.

Mr. Editor,—Accompanying this, you will receive an accurate and a striking delineation of the case of monstrosity adverted to in your Number for January last. In making the drawing, the leading object has been to preserve the position and relative size of each organ as much as is practicable.

Such a combination of peculiarities as are here exhibited, I presume has rarely been met with. They are: 1. Hydrocephalus to an enormous extent, as the following dimensions of the head prove. A horizontal line extending around the head just above the superciliary arch and through the external occipital protuberance, measures seventeen and a half inches; and a perpendicular line passing through the vertex and the meatus auditorius externus, nineteen and a half inches. 2. Complicated hare lip. 3. Club hand of left side. 4. Talipes valgus of left foot. 5. Transposition of all the thoracic and abdominal viscera. 6. Transposition of all the blood-vessels and nerves, so that the aorta descends on the right, and the vena cava superior, on the left side of the mesial plane. The arteria innomanata, which is on the left side, divides into the left carotid and left subclavian, the tracheal portion of the latter being crossed anteriorly by the pneumogastric nerve, and having the inferior laryngeal nerve winding around it; while the carotid and subclavian of the right side come from the arch of the aorta.

The subject of all these anomalies is a female child at full term. It was a first labor, though there had been at least one miscarriage. The presentation was that of the breech, and everything went on favorably until the shoulders were delivered, when no further progress was made for the space of two hours. Dr. V. Mott, who was now called in consultation by the two attending physicians, ascertained, on examination, that the head had not entered the pelvis; but, by persevering and well directed efforts, he succeeded in effecting the delivery without opening the child's head.

The preparation is deposited in the museum of the University, where those curious in such matters can have an opportunity of examining it for themselves.

The following references will explain the engraving:

A, arch of the aorta; B, heart; C, lung of right side, consisting of two lobes; D, lung of left side, consisting of three lobes; E, pleura costalis of left side; F, upper surface of the diaphragm; G, liver; H, anterior extremity of horizontal fissure; I, fundus of gall bladder; J, spleen; K, sigmoid flexure of colon; L, small intestines; *a*, trachea; *b*, œsophagus; *c*, vena cava superior; *d*, trunk of left vena innomanata; *e*, right vena innomanata; *f*, right subclavian artery; *g*, right carotid artery; *h*, arteria innomanata; *i*, left carotid artery; *m*, left subclavian artery; *n*, pulmonary artery; *o*, left pneumogastric nerve.

WILLIAN DARLING, M. D.

New Haven, Conn., March 10*th*, 1844.

SIR,—In the January Number of the "New York Journal of Medicine," I notice a description of a "subject brought into Dr. Darling's dissecting room, in which there is a complete transposition of the thoracic and abdominal organs."

In 1839 I dissected a subject in the Medical Institution of Yale College, in which not only the whole of the thoracic and abdominal organs were transposed, but also the origin and distribution of the blood-vessels and nerves, throughout the whole body. There was, in fact, a complete transposition of all the organs and vessels of the body. The subject was a male 65 or 70 years of age. He had apparently been a robust and healthy man, and had died of acute pneumonia. The preparation of this subject is in the Anatomical Museum of the Institution at this time.

P. A. JEWETT, M. D.

SAMUEL FORRY, M. D.

Art. XI.—*Death from Compression of the Umbilical Cord prevented by Inflation of the Lungs of the undelivered Infant.* By James Couper, M. D., New Castle, Delaware.

The following case is submitted to the readers of the New York Journal of Medicine, for two reasons:

1. The plan of treatment successfully adopted is, so far as I know, new, and is now suggested for the first time to the medical profession.
2. It seems to me to furnish a ready mode of preventing much of that mortality among children at birth, which, without some addition to our usual resources, must necessarily occur in pelvic presentations.

This mortality is usually ascribed, and no doubt justly, to the stoppage of the fetal circulation, by the pressure of the head upon the cord, before respiration has been established, and subsequent delay in the birth of the head. To estimate fairly the benefit of the plan I propose, it should be borne in mind that the deaths are variously stated at one-fourth, or even one-third, of the whole number of such cases; that this heavy loss of life occurs under the use of the best means yet pointed out by writers to prevent it; and that the method pursued in the subjoined instance, is peculiarly adapted to this class of cases.

Case.—Mrs. F., having over-exerted herself, was delivered of twins at the end of her eighth month. The labor was slow, but not remarkable in any respect. The first child was a breech presentation, the spine being directed to the left acetabulum of the mother. When the head came to pass the superior strait, the cord was compressed by it, while the expulsive pains became less active than they had been. Soon after this, the pulsation of the cord ceased entirely; the usual convulsive struggle of the child followed; and then all was still. What was to be done in such a case? The spine of an eight months' child would not safely bear the force necessary to an immediate extraction. There was not time for the action of ergot. The face was not yet low enough readily to allow the fingers to be placed at the sides of the nose, that air might have access to the mouth. Nor would the *mere presence* of air have availed, for the child had already become still. In this state of things I executed a plan I had before determined on, and for which I had prepared myself, namely, to *inflate the lungs*, without attempting to extract the child by force. For this purpose I introduced my left forefinger, and with the point of it drew down the chin. Then, using the finger as a director, I passed one end of a long elastic tube, one-fourth of an inch in diameter, well into the mouth, and taking the other end into my own mouth, I blew briskly through the tube two or three times, and immediately I had the satisfaction to see respiration established. Muscular efforts followed, and as these stimulated the uterus to stronger contractions, the labor soon came to a happy conclusion. The tube was kept in the mouth of the child until delivery was accomplished.

[That it is possible for two men to make the same discovery in different ages, or in different countries of the same age, without any knowledge of each other, is sufficiently proved by the fact that, among the ruins of Herculaneum, have been discovered surgical instruments, which, thus lost to the world, have been again invented in recent times. The same, it would appear, has happened to our correspondent. In the

American Journal of the Medical Sciences, for 1829, Vol. IV., p. 285, is an article by Jacob Bigelow, M. D., Professor of Materia Medica in Harvard University, entitled, "*On the Means of Affording Respiration to Children in Reversed Presentations.*" Referring to the fact that, in those cases of labor in which the body of the child is delivered before the head, many children, which are alive when the body is expelled, are irrecoverably lost in the hands even of the most skilful practitioners, before the head can be extracted, Dr. B. says that the object of his paper is to show that the life of the child, under these circumstances, may often be saved "by forming a communication between the mouth and the atmosphere, previous to the delivery of the head." Dr. Bigelow proceeds:

> "The method to be pursued in conveying air to the mouth, depends upon the situation of the head. If the chin has descended low in the pelvis, so that the mouth rests upon the perinæum or lower part of the sacrum, and can be readily reached by the fingers, the hand of the operator alone is sufficient to give the assistance required. But if the mouth is situated so high in the pelvis as to be reached with difficulty, or if, from the large relative size of the head, there is much compression, the assistance of a tube may be of use. The mode of proceeding which I have found successful in various instances, is as follows: as soon as the body and arms are extracted, supposing the face towards the sacrum, an assistant supports the body, carrying it towards the pubis; or the reverse, should the position of the face be to the pubis. The accoucheur should then introduce the hand to which the face looks, till the middle fingers rest upon the mouth of the child. The hand is then to be raised from the throat of the child, making the ends of the fingers a fulcrum, and pushing the perinæum backwards. The air will then pass upwards as far as the chin of the child. The middle fingers are now to be separated about half an inch from each other, and thus a complete passage will be formed between them, by which the air will reach the mouth of the child. If the child be in a healthy state up to this period, it will immediately breathe and cry, and the delivery of the head may be safely postponed until the natural pains recur. If, from any degree of asphyxia, the child does not immediately breathe, it may be often made to do so by dashing cold water upon the body, or by other stimulating processes. It has even appeared to me practicable *to inflate* the lungs, in some cases, *through an elastic catheter*. When the mouth is so high in the pelvis as to be reached with difficulty, or when the compression is so great as to obliterate the cavity between the fingers, a flat tube will be found useful, made of metal, of spiral wire covered with leather, or of elastic gum, and having its largest diameter about half an inch. If the tube be of metal, or of any incompressible material, it should be withdrawn during a pain, to prevent contusion of the soft parts, and immediately replaced, if the pain subsides without expelling the head. Such a tube may be considered as a prolongation of the trachea, and is fully sufficient to sustain life by respiration for a considerable time. The tube must be guarded and directed by keeping it between the fingers of the inserted hand."

Among the cases given is the following:

> "Case V.—After the birth of the body, the face was found so strongly pressed against the sacrum, as to render it difficult to form a passage for the air. By a gentle extractive force, the head was made to descend lower in the pelvis, *and a tube was placed in the mouth.* The child in this situation respired, and, after a few minutes, with the assistance of a pain, the head was easily extracted."

This, it appears, is an old practice, though it seems to have been lost sight of by nearly all our later writers on midwifery. Hence we have deemed the above article worthy of a place on our pages, while its author has all the merit of an original invention.

Dr. Bigelow refers to Pugh's Treatise of Midwifery, published in 1754, which recommends a practice virtually the same.

> " 'The arms being brought down, the head only remains to be extracted, which must be done with as much expedition as possible, as indeed the arms ought to be; for when the child has passed the navel, the circulation between it and the mother is stopped, from the pressure of the umbilical rope. You must then introduce the fingers of your left hand into the vagina, under the child's breast, and put the first and second fingers into the child's mouth, pretty far, so far, however, that you are able to press down the child's tongue in such a manner that by keeping your hand hollow, and pressing it upon the mother's rectum, the air may have access to the larynx, you will soon perceive the thorax expand, as the air gets into the lungs. Many authors make very little trouble in extracting the head, but without a well formed pelvis, every operator must know there is difficulty and great danger of losing the child by its stay in the passage; but by this method of giving the child air, I have saved great numbers of children's lives, which otherwise must have died.
>
> " 'Before I made use of this method, and pressing externally to assist in extracting the head, I found many children were lost in this situation for want of air, which put me upon inventions; as likewise a third, *which was a curved flattish pipe, as likewise a flexible one, that I introduced into the child's mouth as near to the larynx as I could, the other end external*, which I found answer, but now as I find my fingers generally answer, I seldom make use of it.' "—Page 49–50.

As regards the introduction of the fingers into the child's mouth, and thus pressing down the tongue, the direction would seem superfluous; for, unless the child makes a natural effort to inspire, when the air is brought to its lips, the entire operation will necessarily prove futile. Here Dr. Couper's mode of blowing through the tube would act admirably. —EDITOR.]

ART. XII.—*Case of Rupture of the Vagina and Uterus.* By WM. K. WAGSTAFF, M.D., Resident Physician of the New York Lying-in Asylum.

Case of Rupture of the Uterus. By P. FAHNESTOCK, M.D., Pittsburg, Pa.

MARCH 28th, at 8 A. M., I was called to attend C—— L——, a native of Ireland, aged 28, in labor with her third child. I found her suffering most intensely from the vigor of her pains; she said labor had commenced about two hours previous, although the pains, until now, had been but slight. Upon proceeding to make an examination per vaginam, during an intercession of pains, I found the membranes unruptured protruding some distance from the vulva. These I ruptured; and introducing my index finger into the vagina, I found that I could not reach either the os tincæ or presenting part, although I waited the effects of several powerful contractions of the uterus. I then introduced my index and middle fingers together, when I was enabled to feel the os tincæ, which I found fully dilated and flaccid, and a presentation of the vertex, which was not forced downward in the least by the expulsive efforts of the uterus. This state of things continued until 2 P. M., when I concluded, as there was no advance in the presenting part, that I might possibly be mistaken in my diagnosis of the presentation; and I therefore determined to have counsel. I accordingly sent for Drs. Cheesman and Johnston. Dr. J. arrived at 3 o'clock, about twenty minutes previous to which the contractions had entirely and instantaneously ceased, leaving a constant sense of uneasiness about the abdomen, and a paroxysmal pain resembling, as the patient herself said, that of cholic. Dr. J. was satisfied, upon examination, that the head presented, and that nothing appeared to indicate a present necessity for interference. At 6 P. M., Dr. C. arrived, to whom I suggested the existence of a rupture of the uterus; but as there was nothing to indicate this lesion, except the instantaneous cessation of pains and restlessness of countenance (for the pulse was quite natural), he concluded that these two symptoms alone were not sufficient evidence that such a state of things existed. It was, therefore, determined that an anodyne should be administered, hoping that its effect would be to soothe the system, and thus tend to bring about proper contractions of the uterus. Accordingly I gave her thirty drops of laudanum every half hour, during two hours, which produced a slightly soporific effect, without, however, causing sleep.

29th, at 8 A. M. She still continues to complain of the cholic-like pains, pulse a little accelerated, otherwise natural, vomiting very troublesome, being unable to retain anything on the stomach. 10 A. M., had another consultation, concluded to administer secale cornutum, which was done without producing any effect. 2 P. M., pulse has become small, quick, and frequent; constant copious vomiting of a greenish-black fluid; abdomen tender to the touch; and a discharge of grumous blood from the vagina. It was now determined to turn the child and deliver immediately. After having administered stimulants, I proceeded to turn; and delivery was soon accomplished, although considerable difficulty was experienced in the extrication of the head, there not having been the least expulsory effort made during the delivery. The placenta came away directly after the child, and the hemorrhage did not exceed six ounces. Upon passing my hand up a second time for the purpose of inducing contractions of the uterus, I found on the posterior part of the pelvic cavity a firm hard body, which I had felt during turning, and which I had then supposed to be the head of another child, and upon reaching still further upward, my hand came in contact with what appeared to be tumors. Dr. C. having examined, immediately pronounced them to be intestines, and consequently a rupture of the uterus. A tight bandage was applied, and as she was almost pulseless, stimulants were given freely. She died in three hours after the operation.

Autopsy.—Upon opening the cavity of the peritoneum, it was found to contain about a pint of sanguineous fluid, and the uterus was firmly contracted to its normal size. There was a rupture of the anterior wall of the vagina immediately below the os uteri, extending transversely about one half of its whole circumference, together with a longitudinal laceration of the os tincæ at the centre of its anterior lips, half an inch in length. On the peritoneal surface of the pubic arch, were discovered two large pointed protuberances, situated about an inch on either side of the symphasis.

Taking into consideration the several facts, that during the delivery of the child, or afterward, there was no contraction of the uterus, and that upon the post mortem examination it was found firmly contracted to a normal size, and also that the hand when passed up a second time came in contact, on the posterior part, with a firm, hard body, and above, with a large quantity of intestine, the opinion that the child had been expelled from the uterus into the cavity of the peritoneum previous to any artificial assistance, is rendered exceedingly probable. The uterus and vagina are now in the Pathological Museum of the City Hospital. It may be added that this woman's previous labors had been unattended with difficulty, and that she each time bore a large living child.

[The account of the following case is merely an extract from a letter to us by Dr. P. Fahnestock.—Editor.]

On the morning of the 27th of February last, at 8 o'clock, I was requested to see Mrs. Basset, in the city of Alleghany, who was in her tenth labor, all the previous ones having been speedy and easy. On my arrival, I ascertained that the waters had escaped about an hour before with scarcely any uterine effort, and that the quantity discharged exceeded two large chamber-pots full. Upon examination per vaginam, no part of the child could be felt with the finger. In this state, she continued for five or six hours, when she began to complain of some slight pains at intervals of about fifteen minutes, accompanied with a constant burning sensation to such a degree that she had not a moment's ease, but there were no labor pains. By this time, however, the head of the child had descended so much as to be within reach of the finger, and it was found to be of an unnatural feel; and as the parietal bone was moveable, I inferred the head to be dropsical; but as there was nothing in the case to warrant interference, she was allowed to change her position at pleasure. At half past three o'clock, as she was being assisted in turning from her side, she suddenly felt a slight, but rather acute, pain, when, placing her hand on the left side of the abdomen, she requested me also to put my hand there, saying "Doctor just feel what a strange lump is in my side." On applying my hand, I immediately suspected what had taken place; and upon introducing my finger into the vagina, I found that the child had already receded. It was now evident that a spontaneous laceration of the womb had occurred; and that the child had escaped into the abdomen. Having acquainted her husband with the situation of his wife, and desired him to bring in some other medical gentleman, Dr. Spear soon appeared, by whom my view of the case was fully corroborated. I now introduced my hand and delivered the child by the feet; and the only resistance offered was by the head, which was so much enlarged by dropsical accumulations that it was necessary to reduce it by means of the perforator. After the evacuation of a large quantity of fluid, the delivery was speedily accomplished. Having again introduced the hand, it was ascertained that the left side of the uterus was lacerated throughout its whole extent, and that it was irregularly contracted. The placenta, which was found detached and lying among the intestines, was removed, when the uterus contracted sufficiently to prevent the escape of the intestines. She was now bandaged and dry clothes were put under her; and at the end of twenty-three hours, she was a corpse.

ART. XIII.—*Discharge of a Lumbricus Teres, eleven inches long, from the Male Urethra.* By PETER F. CLARK, M.D., of New York.

ON Friday morning, March 22d, I was called to visit Mr. Philemon Fowler, residing at 117 Varick street. He stated, that on Wednesday morning, the 20th, feeling an uneasiness in his bowels, he concluded to take some purgative medicine. The cathartic failing to operate, and his distress increasing, aggravated by an excessive itching in the glans penis, he, in the evening, took an infusion of senna and salts, which, aided by an enema, opened his bowels freely, and afforded relief to all the symptoms except the itching. He urinated as freely as usual during the day and evening, and after the action of the purgatives, obtained some rest. At ten o'clock on the following morning, he voided urine again; and at eleven o'clock, in making another attempt, he passed but a trifling quantity, the flow being suddenly stopped from some cause, which he could not comprehend. The itching ceased about the same time. The day was spent in frequent and unsuccessful efforts to urinate. About nine o'clock in the evening, having removed his clothing preparatory to taking a warm hip bath, and while unpinning a flannel bandage, he observed something about half an inch in length, dangling from the urethra, which he at first supposed to be a string. He took hold of it, and as inch after inch of the strange object was drawn forth, curiosity changed to amazement. On its entire removal, it proved to be a *worm*. It was a male Lumbricus Teres, eleven inches long, and in no respect different from the ordinary worm of that description, found in the intestines: and it is the only worm passed by him, now thirty-three years of age, since childhood.

Immediately after its passage, a copious flow of urine followed, affording complete relief. Now the question arises—How came the worm in his bladder? A brief review of a former sickness will throw some light on this interesting point. In the spring of 1842, he placed himself under my care, presenting the following symptoms: great prostration of strength, emaciation, œdematous extremities, hectic fever, tenderness and soreness in the hypogastric region, frequent inclination to urinate, and great difficulty in doing so, the urine sometimes bloody, and at others showing deposits of mucus, of puriform matter, and of a white pulverulent substance.

An examination proved that there was no stone in the bladder, but detected a partial stricture of the urethra.

Inflammation and ulceration of the mucous membrane of the bladder, with stricture, manifested by such symptoms, did not afford much ground for hope as to any favorable result. The attempt was, however, made to afford relief, by a variety of means, and those that ultimately proved most beneficial, were, frictions to the surface, the warm hip bath, the frequent application of blisters to the hypogastric region, dilating the stricture by the use of bougies, and the internal administration of the tinctura ferri muriatis. By the persevering use of these means, he improved; and by the spring of 1843, he had so far recovered his health and strength, that he resumed his occupation (that of a carpenter). From that time to his present illness, he has been able, most of the time, to perform the labor of a moderate day's work, or to walk with comfort and without fatigue, five or six miles in a day.

I had not supposed that the organ, all this time, was restored to a sound and healthy state, nor did I encourage him with the hope that he would completely regain his health; but I had reason to believe, that the ulcerative process was arrested, and hoped that the disease was so far stayed, that some years of comfort and usefulness would remain to him. It is now, however, evident, since the passage of the worm, that adhesion has taken place between a contiguous surface of intestine and the bladder, and that a communication was formed by ulceration; and that this probably took place eighteen months since, may be inferred from the fact that there has not been, in any subsequent period, a symptom indicating that such a process was going on. It is singular that the first proof of such a state of things, should be the passage of an intestinal worm per urethram; for there never has been, in the alvine evacuations, anything having the appearance or smell of urine, nor has there been anything in the urine having the remotest resemblance to the intestinal contents.

Art. XIV.—*On the Use of Mustard in the Convulsions of Children.*

By Charles S. Tripler, M.D., Surgeon U. S. Army.

Mr. Editor:—Let me suggest to the profession, through your Journal, the use of *Mustard* in the convulsions of children. I had an obstinate case last summer, from teething, in which everything was tried, that I, or others, could think of, without success. As neither antimony, sulphate of zinc, sulphate of copper, ipecacuanha, nor any other emetic usually given, seemed to make any impression upon the stomach, I thought I would try mustard, with a view to its emetic effects. In a few minutes it arrested a fearful attack of convulsions, that had lasted five hours; and that too, *without vomiting* the patient, for some time afterward.

A short time since I had three more cases in the course of a fortnight; with the first I tried the usual remedies, and I also made an ineffectual attempt at venesection (leeches could not be procured). The case still resisted, when the use of mustard again occurred to me. I gave it, and the patient was relieved in five minutes. With the other cases I used the mustard *at once*, and successfully. Its efficacy seems to have no relation to its emetic properties; for its sensible effect, in these cases, is as frequently to purge as to vomit. From my experience of the remedy, I do not hesitate to recommend its employment in these troublesome cases, in preference to any other internal remedy with which I am acquainted. Yours, truly,

Charles S. Tripler, Surg. U. S. Army.

Detroit, Mich., March 4, 1844.

PART SECOND.

Critical Analysis.

ART. XV.—*Lectures on the more important Diseases of the Thoracic and Abdominal Viscera, delivered in the University of Pennsylvania.* By N. CHAPMAN, M. D., Professor of the Theory and Practice of Medicine, &c. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 384.

THIS is a work that belongs to the medical classics. Written in a precise, polished, and energetic style, this production, like those of the classic Rush, can be read with the purest pleasure. How different are its pages from the diffuse, involved, obscure, and saturnine language of many medical authors, whose works have even received the approval of the profession! At the same time, it is often amusing to see with what determined pertinacity our distinguished author will invariably invert every sentence and all its subordinate parts.

Although the subjects treated of in this work are not numerous, yet there are none more interesting and important. They embrace *Phthisis Pulmonalis*, *Cynanche Laryngea*, *Asthma*, *Angina Pectoris*, *Some of the Diseases of the Stomach*, *Some of the Diseases of the Intestines*, *Some of the Diseases of the Liver*, *Icterus*, and *Some of the Diseases of the Spleen.* But these diseases are delineated not only with a graphic pen, but with the fidelity of the hand of a master, whose practical experience has extended over many years of well-employed observation. "*Essentially* does this work consist of lectures, which have been publicly delivered," is a remark that constitutes the first line of the author's preface, and he adds, further on, that some of the articles "have previously appeared in one or more of our medical journals;" but notwithstanding the consequent familiarity of his views, we venture to predict, in view of his reputation and his connection with the oldest school of medicine in the Western hemisphere, that the work will command a very general perusal.

The subject of Phthisis Pulmonalis comprises just one-fourth of the volume, and it is to this topic that we shall confine our present remarks.

It is said that when Harvey discovered the circulation of the blood, there was not a single physician, who had reached the age of forty-five, who did not descend to his mother earth an unbeliever in this great announcement. Aware of this fact, and also of the additional one, that Dr. Chapman had arrived at this epoch in life when the application of hearing to the diagnosis of diseases (percussion), first attracted the attention of the present age (for we are told by our author that it was practised even by the Father of Medicine, "who soon put it into abeyance, probably, from its alleged pretensions not having been realized"), we were not taken unawares by his disparaging language. It did not, therefore, surprise us to meet with the following words: "Both it [percussion] and auscultation seem of late to be gradually losing much of their former cordiality of support, and by many are treated contemptuously. Details I cannot give."—P. 40.

Now, we would not be dogmatic, but our impression is, that the physical means of diagnosticating diseases, more especially of the thorax, are, in proportion as these methods of exploration become better understood, increasing in favor with the profession.

Dr. Chapman, it would appear, has likewise some opinions upon the subject of Phthisis Pulmonalis, which are certainly by no means general. He says:

> "Not prepared at present to deny positively the strumous origin of tubercles, I am, however, very strongly inclined, in opposition to general authority, to maintain their independence of such condition, and at all events, if it be so, the identity of the two productions."—P. 24.
>
> "As prone to consumption as probably most parts of the world, scrofula is seldom or never generated among us; the disease which we occasionally see being chiefly in foreigners or their immediate descendants."—P. 25.
>
> "The native population of this city is nearly exempt from the disease [Phthisis Pulmonalis], and the fact is important, as showing the influence of locality." —P. 28.

Leaving the distinguished Professor to enjoy his peculiar opinion as to the nature of the tubercular deposit, we would ask attention to the manifest contradiction of the two other extracts. In the former, the idea is held out, without qualification, that consumption is not less prevalent in Philadelphia than in "*most parts of the world*;" while in the latter, "*the native population*," we are gravely told, "*is nearly exempt from the disease.*" Now, did not the statistical reports on the health of the British army, serving in the four quarters of the globe, and also in what has been quaintly styled the *fifth quarter*, teach us, on the one hand, that there is no immunity from phthisis pulmonalis in any climate of the world, and were we not, on the other hand, guided by the axiom, that it is a good rule in philosophy to ascertain the truth of a fact before attempting its explanation, we might at once set about inquiring into the peculiar nature of that "*influence of locality*," which nearly exempts the native population of Philadelphia from this terrible scourge!

> "Certain climates and locations," says Dr. C., "have great influence on the production of phthisis. It is undeniable, that while the hyperborean and torrid regions comparatively escape this severe scourge, it is the medium latitudes, when moist and chilly, and especially a residence in overgrown cities, or along the sea-coast, that generates the consumptive diathesis. The British Isles, which answer to this description, are singularly exposed to the disease; and London more than the smaller towns, the country being much less so, except on the margin of the sea.
>
> "The United States afford similar illustrations. It is on the littoral boundaries of our north-eastern territories that it extensively prevails, and greatly in New York, Newport, and Boston. As we advance southerly, and particularly, receding from the ocean, it sensibly diminishes. *The native population of this city is nearly exempt from the disease, and the fact is important, as showing the influence of locality.* [This wonderful fact has been already quoted!] Equally remote from the sea and mountains, it comparatively escapes from the austere winds of the one, and the cold blasts of the other, maintaining a more regular and moderate temperature, than the latitude of its position would seem to warrant."—P. 28.
>
> "That the sea-board everywhere is more liable to consumption than the interior, seems sufficiently demonstrated, and is conspicuously illustrated in relation to our own country."—P. 86.

Now, as these several assertions have an oracular air about them, and as the evil influence of false doctrines bears a direct ratio to the character of the authority whence they emanate, it behoves us, however unpleasant the task may be, to inquire upon what kind of data they rest. Dr. C. has given us no intimation by what process of reasoning he arrived at the above results, and we are forced to believe that the conclusions are nothing more than the vague inferences drawn by particular practitioners from the few cases of disease which fall under their observation; and this too, doubtless in almost every instance, by physicians whose practice has been limited to one, or perhaps two, localities.

The first opinion advanced in the above extract, that hyperborean and torrid regions are comparatively exempt from phthisis, is true only in part. As it is proved statistically that this disease prevails but too severely in all climates, the exemption of the extreme latitudes has been expressed by Dr. C. in too strong language. In the middle regions of Europe, for example, as is shown in Laennec's work, edited by M. Andral, phthisis is more frequent than in latitudes further to the north or the south; and this law also obtains in the middle parts of the United States, as is shown by the Medical Statistics of the United States Army. Hence, a cold temperature is not essentially, *per se*, favorable to the development of phthisis pulmonalis; and this law holds also, in our country, as regards pleuritis and pneumonia.

The remainder of the extract comprises four other assertions, viz., that phthisis is particularly rife on the littoral boundaries of our north-eastern States; that it diminishes sensibly as we advance southerly, and especially as we recede from the ocean; that the sea-board is everywhere more liable to consumption than the interior; and that the native population of Philadelphia "is nearly exempt from the disease." There is still another, a fifth, which, involving the error of a climatic law, will be considered in the first place.

We cannot here enter into an explanation of the general laws of climate, which, however, ought to be familiar to all our readers. In the United States, we find the laws of climate much modified on the same parallels, from the influence of local causes. Hence we find, in tracing the same parallel of latitude in our northern States, that on the sea-coast of New England, the influence of the ocean renders the climate milder, by modifying the range of the thermometer, and thus equalizing the seasons. Advancing into the interior, the climate becomes more austere, for the extreme range of the thermometer increases, and the seasons are more violently contrasted. Proceeding still further, until we come within the influence of the great lakes, a climate like that of the sea-board is again found; and as the region on the same latitude beyond the modifying agency of these inland seas, is reached, an austere climate is again presented. We thus see, in these laws, determined by the Army Meteorological Register, the difference of temperature, on the same parallel, produced by diversity in physical geography,—affording, indeed, a happy illustration of the equalizing tendency of large bodies of water.

Now, how does this quadrate with the philosophy of Dr. Chapman, who, speaking of a locality equally remote from the sea and the mountains, represents it, as seen above, as "*maintaining a more regular and moderate temperature than the latitude of its position would seem to warrant?*" Strange, that he should not be aware of the climatic law, that in proportion as we recede from the ocean, on the same parallel and on the same level, does the climate become more austere, the summers hotter and the winters colder! He thus assigns, by way of explanation, what is not a fact in nature; and we shall now proceed still further, in order to show that the law of phthisis which he thus attempts to explain, viz., *that it diminishes sensibly as we recede from the ocean*, is in reality no law at all.

Let us now see what is the result warranted by statistical investigations relative to the influence of the ocean or any other large body of water upon the different forms of pulmonary disease, more especially as our author says "*that the sea-board everywhere is more liable to consumption than the interior.*" As catarrhal affections might reasonably be supposed to express the general influence of atmospheric agents in the most decided degree, the following table will enable the reader to judge for himself:

RATIO OF CATARRHAL DISEASES.[*]

Divisions.	Systems of Climate.	Latitude.	Difference between the mean temperature of winter and summer.	Ratio treated per 1000 strength.				
				1st Quarter.	2d Quarter.	3d Quarter.	4th Quarter.	Annu'l result.
Northern	Class 1—Posts on coast of New England,	43° 18	38° 61	63	49	36	85	233
	Class 2—Posts on North chain of Lakes,	46 27	43 · 00	90	62	50	96	300
	Class 3—Posts remote from the ocean and inland seas,	44 53	55 · 84	175	120	86	169	552
Middle	Class 1—From Dela. Bay to Savannah,	37 2	32 · 99	102	45	23	97	271
	Class 2—South-western stations,	35 47	36 · 83	122	61	33	78	290
Southern	Class 1—Posts on the Lower Mississippi,	30 10	24 · 39	82	34	26	60	218
	Class 2—Posts in Peninsula of Florida,	24 33	11 · 34	45	24	40	33	143
Average	. . . .			98	56	42	88	287

We thus discover that there is an intimate relation between the laws of climate and the etiology of catarrhal diseases; but this law, so far as we may judge from analogy, is directly opposed to the one laid down by our author. The posts along the coast of New England and those on the northern chain of lakes, with a climate characterized by sudden atmospheric vicissitudes combined with moisture, give a ratio of catarrhal diseases not half as high as do the posts in the intervening region, with a more dry and cold atmosphere. This result is certainly unexpected, being contrary to all our *à priori* reasoning; and were it not that it holds, as is seen in the above table, throughout the United States, the correctness of the data might be fairly doubted. It is a law, warranted by this table, that the prevalence of catarrhal affections increases and decreases, in each of the seven regions of the table, in proportion as the seasons are contrasted, thus maintaining an unvarying relation with the extreme range of the thermometer as connected with the seasons. And this table, when it is considered that it embraces an aggregate mean strength of 47,220 men, and extends over a period of ten years, is surely deserving of respect; and this is more particularly the case, when the result is contrasted with the opposite opinion, which rests merely upon the unaided observation of certain practitioners of medicine.

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[*] Vide "Climate of the United States and its Endemic Influences." By Samuel Forry, M. D.

The same law as pertaining to catarrhal diseases, is likewise found to hold good, to a great extent, relative to pleuritis and pneumonia. But our space will not allow us at present to go into detail; notwithstanding, it is to be feared, that the explanations already given, in our desire to be brief, may not prove very intelligible.

Judging from the analogy of catarrh, pneumonia, and pleuritis, all evidence would seem to be opposed to the views of our author, viz., that phthisis is particularly rife on the coast of New England, compared with the rest of the United States, and that the sea-board is everywhere more liable to it than the interior, *the city of brotherly love of course excepted!*

But the statistics of the United States Army also afford data upon Phthisis Pulmonalis; and these show that this disease is under the influences of causes to which those of climate are subordinate. Indeed, we are too apt, perhaps from the influence of early opinion, to associate almost inseparably the ideas of phthisis and a changeable climate. A changeable climate, it is true, exercises, on constitutions laboring under, or predisposed to, phthisis, an evil influence; but it is well known that the climates best adapted for the development of the various mental and bodily powers, are those which are the most variable. In countries, too, in which phthisis occurs most frequently, "*those who are least exposed to its influence are precisely those most exposed to the vicissitudes of the climate;*"* and as it has been thus satisfactorily ascertained that the maximum of liability to phthisis in England is found among those who suffer the least exposure to climatic variations, it follows that the influence of these meteorological causes, doubtless in all countries, must be regarded as secondary to the agency of other causes, as, for example, occupation, food, and habits. In the United States, for instance, the medical statistics of the army show that the south-western stations have a higher ratio of phthisis pulmonalis than the posts along the coast of New England. In systems broken down by habits of intemperance, as is too often seen among our soldiers, phthisis is very apt to supervene upon certain chronic affections, as the sequelæ of remitting and intermitting fever, diarrhœa, etc.; and yet *malaria*, it is alleged, is almost a *specific* for the early stage of consumption.

With these remarks we will close our notice of this interesting volume. We confidently bespeak for it a wide circulation.

Art. XVI.—*Annual Report of the Managers of the State Lunatic Asylum Made to the Legislature of New York, January 18th*, 1844. pp. 66.

Report of the Pennsylvania Hospital for the Insane, for the year 1843. By Thomas S. Kirkbride, M.D., Physician to the Institution. pp. 35.

State of the New York Hospital and Bloomingdale Asylum, for the year 1843. pp. 28.

The New York State Lunatic Asylum is situated about one mile and a half west of the city of Utica, on an elevated and commanding site. The building, which was commenced in 1838, and mainly completed in the winter of 1841–2, is built of hammered stone, and is 550 feet in length. The superintendent and physician is A. Brigham, M.D., who is distinguished for his knowledge upon the subject of insanity, and for his skill in the management of such patients.

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* Cowan's Additions to Louis on Phthisis.

The Report commences thus:

> "The Asylum has been in operation since the 16th of January, 1843, when it was opened under some disadvantage of a temporary character, for the admission of patients. Many of the necessary arrangements had not then been completed; only a small part of the furniture had then been procured; the furnaces intended for warming the apartments to be occupied by the patients were unfinished, the verandas uninclosed, and no means then in readiness for furnishing an adequate supply of water. But so strong was the desire expressed in applications from different parts of the State, to have the institution opened at the earliest day practicable, that we fixed on the 16th of January, believing that the small number of patients that would be admitted during the first two or three months, could be made comfortable; and that, in the meantime, the necessary arrangements then in progress could be completed.
>
> "We refer to the first annual report made to us by the superintendent, and herewith submitted to the Legislature, for a full and detailed account of the operations of the Institution, from the time it was opened for the admission of patients, to the 30th of November last. From this it will be seen that during a period of ten and one-half months, *two hundred and seventy-six* patients in all, have been received into the Asylum; that *fifty-three*, during the same period, have been discharged, recovered; fourteen improved; six unimproved; seven have died; and that one hundred and ninety-six were remaining on the 30th of November.
>
> "The Asylum has filled up more rapidly than was anticipated by us at the commencement; and we believe there is no record of so great a number of admissions, during the same period of time, in any similar institution. In thus rapidly assembling so large a number of insane persons together in an Asylum, in many respects unprepared for their admission, and many of them when admitted of the most violent class, accidents of a serious character were reasonably to have been anticipated, besides being adverse in many respects to the success of the Institution.
>
> "Under these circumstances, also, the duties of the superintendent and other officers have been rendered peculiarly arduous and responsible. It is, however, with unfeigned gratification, that we are enabled to state, that no case of suicide or other accident of a serious nature has occurred; that fifty-three of our fellow beings, under the auspicious influences of this Institution, have been restored to reason, to their families, and to society; and that those who still remain, have been rendered comparatively comfortable under the severest of human afflictions.
>
> "It is not easy for any person who has not actually seen the inmates of the Asylum, and remarked their condition on admission, fully to comprehend the extent of the change which is wrought upon them in everything that marks the physical and moral condition of a human being, by being placed under the control and influence of such an institution.
>
> "The success which has thus far attended this noblest of public charities, and the remarkable exemption from any serious accident in thus rapidly assembling so large a number of insane persons with attendants, who, when they commenced, were inexperienced in the performance of their duties, we cannot but attribute in a great degree, to the ability, skilfulness, experience, and entire devotedness to his duties of the superintendent who is placed at the head of the Institution, and who, under the general supervision of the managers, presides over and directs all its operations."

At the date of this report there were 210 patients in the Asylum; and the means of accommodation would not allow them to take more than fifteen more. As the census of 1840 gives 2340 lunatics and idiots for the State, it is seen that but a small proportion can at present receive the benefits of the Institution. The managers consequently recommend to the Legislature the enlargement of the building as speedily as the necessary means can properly be devoted to this object.

We have here the first annual report of the superintendent, Dr. Brigham, from the opening of the Institution, January 16th, 1843, to November 30th. During this period there have been admitted as patients:

	Men.	Women.	Total.
	148	128	276
Discharged, recovered, ...	30	23	53
do improved, ...	10	4	14
do unimproved, ...	1	5	6
do dead, ...	6	1	7
Remaining, November 30th, . . .	101	95	196

The monthly admissions, the number from each county, and other appropriate data, are here also presented. Seven died, which is a low ratio of deaths; viz., one soon after admission, from exhaustion consequent to abstinence from food and exposure to cold, prior to coming to the Asylum; one from erysipelas caused by a wound before admission; one from paralysis; one from scirrhous stomach; two of consumption; and one from sudden effusion of the brain, the third day after arrival. Further evidence of general good health is afforded by the practice of weighing each patient soon after admission and when discharged, and also on the first of each month of the intervening period. Of the 53 discharged cured, the total increase in weight was 306 pounds, all having gained in flesh, with the exception of two. Some gained from 10 to 18 pounds, and one even 37 pounds. The ages of the patients when admitted, and their ages when insanity commenced, their civil condition, occupations, places of nativity, and supposed causes, are next presented in detail. Among the causes, seven cases, five males and two females, are ascribed to "Millerism." Dr. Brigham thinks that "the most frequent and immediate cause of insanity, and one the most important to guard against, is the *want of sleep;* and he gives cases attributed to different causes, in which, had not loss of sleep preceded the attack, insanity, he thinks, would not have occurred.

Dr. Brigham's views upon the general subject of insanity are very judicious. As regards, for example, classification, he prefers, though no one is unobjectional, a system founded upon the faculties of the mind, which seem to be disordered. He thinks that he could arrange all his patients in the three following classes:

"1st. *Intellectual Insanity*, or disorder of the intellect without noticeable disturbance of the feelings and propensities.

"2d. *Moral Insanity*, or derangement of the feelings, affections, and passions, without any remarkable disorder of the intellect.

"3d. *General Insanity*, in which both the intellectual faculties and the feelings and affections are disordered.

"In each of these classes may be found those who are constantly excited or depressed; but as these different states of feeling are frequently witnessed in the same patients, and often in the same hour, we cannot arrange them in distinct classes.

"According to this arrangement we have of

Intellectual insanity,	15
Moral insanity,	38
General insanity,	223

"Some of the cases thus arranged are more marked than others. Some of intellectual insanity manifest no disorder of the feelings, while others at times do, though not to any marked extent. So of those morally insane, while in a few we discover no intellectual derangement, in others some is at times exhibited.

"We have no idiots. They should not be classed with the insane, as idiocy is not disease or the result of disease, but the consequence of malformation of the brain."

Soon after admission, the patient's head is measured in various directions, and a record is also made of the number of his pulsations in a minute. These are data that must in the end lead to some important conclusions, whether positive or negative.

We are next presented with the daily routine of business, the diet, the labor, the amusements, the school, the religious worship, and the restraints of the patients; all of which are interesting subjects. That of diet has been fully noticed in a preceding article on Dietaries, by Dr. Lee.

Appropriate suggestions are also offered by Dr. Brigham to those who have friends they expect to commit to the care of the Asylum. Upon this point, a single quotation must suffice:

"Few things relating to the management and treatment of the insane are so well established as the necessity of their early treatment and of their removal from home in order to effect recovery. There are exceptions, no doubt. Some who have been neglected several years and received no medical treatment are sometimes cured, and some also recover at home. But these are rare instances. By examining the records of well conducted lunatic asylums, it appears that more than eight out of ten of the recent cases recover, while not more than one in six of the old cases are cured."

Dr. Brigham also keeps a case book, in which is recorded the history of each patient prior to admission, as far as practicable, and also the subsequent treatment and its results; and as a vast collection of facts relative to insanity must thus ultimately be accumulated, valuable deductions may follow. It is also richly deserving of mention, that he keeps a meteorological observatory, consisting of observations upon the thermometer, barometer, the rain-gauge, and upon the winds and clouds.

Dr. B., without proposing to dwell upon the nature and treatment of insanity, gives the following excellent general views:

"We consider it a disease of the body—a disease of the brain, the material organ of the mind. In the early stage of the disease, there is usually only disordered *action* of the brain, and this can generally be cured, and the organ suffer no injury; but if this disordered action is long continued, it usually causes *disorganization* of the brain, and renders it for ever incapable of properly manifesting its functions; just as a disease of the eye, that might have been easily cured, if judiciously treated at the commencement, terminates in permanent blindness when neglected, though without impairing the health in other respects.

"We see nothing to change in the following views heretofore advanced by us respecting the pathology of insanity.

"1st. In mental alienation the brain invariably presents appearances of disease, which can be distinctly recognized. Exceptions to this, if ever observed, are extremely rare.

"2d. These appearances vary according to the acute or chronic form of the malady, and according to the character of the affection, whether simple, confined to intellectual disorder merely, or complicated with disorder of sensation and motion.

"3d. In simple intellectual derangement of an acute or recent character, the grey outer substance of the convolutions of the brain is altered in color and consistence; it is red, marbled, and indurated. Sometimes these appearances are confined to the anterior and superior portions of the brain. In chronic cases, all these are more marked. The external layer in such may be separated like a membrane from the lower stratum. In the very chronic cases, especially in dementia, there is often wasting or diminution of the grey substance of the convolutions of the brain.

"4th. In intellectual derangement, complicated with derangement of motion, with paralysis more or less general, in addition to the alterations of the grey substance already noticed, there are marks of disease in the medullary portion of the brain. These are, either hardening, serous infiltration or softening, and generally morbid adhesions of the fibres of the medullary portion of the brain.

"The treatment of insanity is properly divided into *moral* and *medical*. Many cases recover without any medical treatment, by seclusion and quiet—by removal from home and from the exciting causes of the disease, by regulated diet and kind usage.

"Other cases are complicated with disease of other organs than the brain, and require medical treatment, which should however be varied according to the organ affected and the nature of the disease.

"Some cases may perhaps require bleeding in the earliest stage of the disease, but we apprehend such instances are rather rare. Many of our patients appear to have been injured by too much bleeding and depletion before their admission to the Asylum. We use but few medicines for insanity, uncomplicated with other diseases. Common laxatives, with a few tonics and narcotics, constitute the principal. We now rarely bleed or blister, and not unfrequently administer emetics or powerful cathartics.

"We are not, however, neglectful of any new remedy proposed for the cure of the insane. Of late no new method of treatment has been advanced, of which we have heard, unless some of the propositions of M. Leuret, in his valuable work on the *Moral Treatment of Insanity*, may be so considered. He proposes to cure all cases of uncomplicated insanity solely by moral means. He makes great use of the douche and cold effusions. He excites pain and produces unpleasant ideas in order to prevent those still more unpleasant, and thus endeavors to lead patients to seek for pleasure.

"We acknowledge ourselves under obligation to the distinguished physician of the Bicêtre Hospital, for many valuable suggestions, though we think some of his propositions very questionable, and liable to the same objections as punishment and undue coercion.

"Dr. Moreau of Tours, in a recent work on the *Treatment of Hallucinations by Datura Stramonium*, gave us much encouragement of benefiting those of the insane affected by hallucinations of sight and hearing. But we regret to say that after a thorough trial of this remedy in several cases, we have observed no permanent or material benefit from the use of it.

"*Prognosis.*—The longer insanity has existed, the less chance is there for recovery. It is rarely cured after it has uninterruptedly continued for two years, though there is always hope if the patient is vigorous and the form of insanity varies. General excitement of the mind and feelings is more readily cured than monomania or derangement on only one or two subjects; and the more acute the disease, the more rapid usually is the recovery.

"Hereditary insanity, and that produced by injury of the head or arising from peculiar structure of the brain, is curable, but in such cases, relapse is the more to be expected. This is true of those who have suffered from a previous attack. Insanity arising from a violent exciting cause, is more likely to recover than when it is produced by a trivial cause. The middle aged, it is thought, more frequently recover than the very young or the aged. The speedy action of moral causes in producing derangement, is a favorable circumstance; if it has been slow, recovery is difficult. If insanity is connected with pregnancy, or with uterine difficulty, the prognosis is favorable. If the appetite remains good, and emaciation increases, there is reason to fear the case is hopeless.

"Remissions are favorable, especially if the attacks lessen in violence and duration. No alteration of pulse is an unfavorable indication.

"Insanity arising from excessive study, Esquirol thinks, is rarely curable, especially if there have been deviations from a proper regimen, and when it originates in, or is fostered by, religious notions or pride. It is also very difficult to cure when aggravated by hallucinations. Those forms of insanity in which the patient has a proper notion of his state, present many difficulties if a recovery does not speedily take place. When digestion, sleep and appetite are natural, and the patient increases in flesh without any diminution of the insanity, there is little hope. When the sensibility of the patient is so far weakened that he can gaze on the sun, has lost the sense of smell and taste, and is insensible to the inclemency of the weather, he is incurable. Insanity is incurable when it is the result of epilepsy, and when complicated with this disease or with paralysis, leads inevitably to death."

As the reward of merit, the following paragraph also deserves to be extracted :

"Dr. Buttolph has performed the duties of assistant physician with ability and entire devotedness to the interests of the institution, sharing with me the hardships and anxieties attendant upon its organization."

The following is added as a postscript:

"Since the foregoing report was written we have received *fifty-four* patients, and discharged *twenty-nine*. Our present number is *two hundred and twenty-one*. Applications for admission have been more numerous of late than at any previous time. We now have all our rooms engaged, and are reluctantly compelled to refuse admission to many, and to discharge others, in order to receive the most urgent cases."

The Pennsylvania Hospital, which is a private charitable institution, receiving no aid from the city or State, was founded in 1753 ; and up to 1841, the insane as well as other patients were received in the buildings in the city of Philadelphia. But in 1841, the insane were removed to a new establishment, about two miles west of the city, styled the "Pennsylvania Hospital for the Insane." Up to 1841, the number of patients admitted into the hospital in the city, was nearly forty thousand, and of these, 4,336 were insane.

The same variety of data is afforded pretty much by this Report, as we find in the one just noticed. At the date of the report of the preceding year, the number of the patients in the Hospital was 118 ; and since that period 140 were admitted, and 126 discharged or died. Thus the number under care at the close of the last year was 132. Of those discharged during the year 1843, there were cured 68, much improved 7, improved 14, stationary 20, and died 17, making a total of 126.

Dr. Kirkbride, who is peculiarly qualified for the charge of an Insane Institution, speaks strongly in favor of the value of mechanical as well as other kinds of employment in the treatment of insanity ; and in illustration, he adduces two very remarkable instances, which, after a failure of all the ordinary means, were thus perfectly restored. D. K. makes very little use of any restraining apparatus ; and, indeed, he thinks it quite possible to dispense entirely with it in a well-constructed hospital, properly supplied with an efficient corps of attendants.

In the third place, we will review the "State of the New York Hospital and Bloomingdale Asylum, for the year 1843." The Governors of the New York Hospital report—

> "That the important Institutions confided to their management continue to furnish that relief to the afflicted, and those aids to scientific inquiry which led to their establishment, and induced the liberal bounty of the State.
>
> "The Library, which is annually increased by the application of the moneys received for students' tickets, now contains nearly five thousand volumes, of the most valuable works on medicine and its collateral sciences.
>
> The Governors are gratified in being able to add, that the advantages to be derived from the practice of the Hospital, and attendance upon the clinical lectures delivered by the eminent professional gentlemen connected with it, together with the use of the Library, have attracted a greatly increased number of students from different parts of the State.
>
> "THE NEW YORK HOSPITAL.
>
> "The number of patients in this Institution on the 31st December, 1842, was one hundred and ninety-eight, and there were admitted during the year 1843, one thousand nine hundred and two, making a total of two thousand one hundred persons who have received the benefits of the Hospital during the year.

"Of this number there have been cured,	1,239
Relieved,	133
Discharged at their own request,	215
Discharged as improper objects,	44
Eloped or discharged as disorderly,	71
Died,	170
	1,872
Remaining in the Hospital on the 31st Dec., 1843,	228
Total,	2,100"

As respects the Bloomingdale Lunatic Asylum, it is further reported that the number of patients on the 31st of December, 1842, was 110, and that 85 were admitted during 1843. Thus there was a total of 195 under treatment in the Asylum during the last year. Of this number there have been cured, 49; discharged, much improved, 23; discharged at the request of friends, 7; eloped, 2; died, 14; remaining on December 31, 1843, 100; making the above total of 195.

Accompanying this is the report of the Resident Physician, Dr. Wm. Wilson, to the Bloomingdale Asylum Committee. The number of patients corresponds of course with the statement already made; and appended to this report are the usual tables on the several subjects adverted to in the notice of the New York State Lunatic Asylum.

> "The proportion of recoveries to admissions," says Dr. Wilson, "has been, of recent cases, seventy-seven per cent., and of old cases, thirty-two per cent. Thus furnishing the evidence of another year's experience to the truth of the oft-repeated remark of the comparative curability of recent attacks of insanity, and the diminished probability of recovery when the early periods of the disease are allowed to pass without subjecting the patients to appropriate treatment."

* * * * * *

> "Habitual exercise in walking and riding has afforded both occupation and amusement, and has contributed largely to the restoration and maintenance of mental and bodily vigor."

* * * * * *

> "And permit me, while bearing testimony to the advantages offered in this

Institution for the relief and recovery of the insane, to suggest the importance of increasing these facilities, as experience may suggest and opportunity offer. Convinced, by every year's experience, of the important advantages resulting from the regular and systematic employment of the patients, whenever they can be induced to engage in active employment, I would particularly urge the importance of providing additional means for that purpose. As the tastes and habits of our patients are various, and many have never been accustomed to manual labor, it is important to present as many varied modes of occupation as possible—that the mind

'Of desultory man, studious of change
And pleas'd with novelty, might be indulg'd.'

Let, then, the erection of suitable workshops for different avocations, and particularly the enlargement of our carpenter's shop, receive early attention. Increased facilities for amusement, also, should never be lost sight of—since, in connection with active employment, we ought ever to look upon them as our most important means of alleviating the wretchedness of our inmates, if not of restoring them to reason. These additions to our present catalogue of moral means of cure, could not fail of producing beneficial effects in the amelioration of the condition of those entrusted to our care, and, in many instances, expediting their recovery."

ART. XVII.—*The Cyclopædia of Practical Medicine.* Edited by JOHN FORBES, M.D., F.R.S., ALEXANDER TWEEDIE, M.D., F.R.S., and JOHN CONNELLY, M.D. Revised, with additions, by ROBLEY DUNGLISON, M.D. Philadelphia: Lea & Blanchard. 1844.

AMONG the many advantages which attend a cyclopædia of general science, we feel bound to say that they are not participated in to the same extent by a similar form of publication on the various branches of medical science, especially when the contributions are furnished by a large number of individual writers. Such a work, in the still unsettled state of medicine and medical philosophy, must necessarily bear the impress of a multiform and parti-colored character. It must abound in contradictory opinions and views on physiological, pathological, and practical points.

All this must have a most unfavorable effect on the mind of the young practitioner; for when he finds doctrines positively laid down as established on one page, and then upon the next finds an opposite dogma just as sturdily maintained, he rejects them both, perhaps, in disgust; and the next we hear of him is, that he has become an advocate for some newfangled hypothetical system, or a convert to some of the existing varieties of quackery. For this reason, among others, we regret that the publication of this Cyclopædia, the labor of sixty-seven different hands and heads, has been commenced in this country; for a careful and repeated examination of the work has convinced us that the most that can be said of it is, that it is a ponderous book, in which every collaborator has ridden his own hobby. As each writer was selected in consequence of having made a particular subject his special study, the importance of each will of course be exaggerated; and hence, too, there must necessarily be a want of that harmony which a single mind would have infused into the whole.

We do not pretend to assert that there are not some very clever essays in its pages. Indeed, what else could be expected from such names as Forbes, Pritchard, Tweedie, Connelly, and others, who stand high on the scroll of the medical fame of the living? But we are disposed to deny that many of its writers are practical and experienced physicians; and the names of some of them, we believe, have never been heard of in medicine except through their announcement in connection with this work. They are *novi homines*, to all intents and purposes.

Such are the unavoidable difficulties connected with getting up a medical dictionary on the above plan, that we are satisfied no such work can, or ought to, succeed. If, by any circumstances, it be forced into circulation, its success will be short-lived. Consistency, like fair play, is a jewel in medicine, as in everything else; but it cannot be found in the patch-work labors of three score and ten medical writers, bound between two covers, all thrown together into a hodge-podge, and called a system of "Practical Medicine." System, forsooth! There are at least a score of systems, founded on as many different doctrines, scattered up and down in its pages; and the reader must be a real "eclectic" who can derive any profit from such a chaotic mass.

In the work before us, the articles are of very unequal merit, as would, of course, be expected among such a number of contributors. There are also positive deficiencies; as, for instance, in Part I. before us, the article "Anæmia," notwithstanding the learned American Editor's valuable additions, is still meager and unsatisfactory. It appears, however, that it is not the intention of the American Editor, as he tells us, to supply these deficiencies.

> "In so large a work," he says, "composed by so many different writers, it might rationally be expected that the articles would be unequal; and hence, that the attention of the undersigned [Robley Dunglison] would be called to supply marked deficiencies, or to modify what subsequent researches might have rendered questionable. It did not enter, however, into his plan, or that of his publishers, that his additions or modifications should be numerous or extensive."

Art. XVIII.—*Pharmacologia, being an Extended Inquiry into the Operations of Medicinal Bodies, upon which are founded the Theory and Art of Prescribing.* By J. A. Paris, M.D. Cantab., F.R.S., Fellow of the Royal College of Physicians of London, etc. From the ninth London edition. Re-written in order to incorporate the latest discoveries in Physiology, Chemistry, and Materia Medica. With Notes by Charles A. Lee, M.D., A.M., Professor, etc. New York: Harper & Brothers. 1844. 8vo. Pp. 354.

The popularity of this book, which first appeared in 1812, is sufficiently attested by the fact that, antecedent to the present American edition, nine editions have appeared in England, and several in this country. To say aught in commendation of this work, which has had perhaps a more extended circulation than any other medical publication of the present century, would be wholly unnecessary. We are told by Dr. Paris that the work has been entirely re-written, and entirely adapted to the present state of chemical and physiological science; and this was the more necessary as newly discovered medicinal agents and novel preparations have found their way into recent Pharmacopœias; besides, their nomenclature has been radically changed. There is no other treatise in the English language, in which a full and extended view of the philosophy of medical combination is given, nor is there any other from which the true theory and art of prescribing can be satisfactorily deduced. Speaking of the time when this volume first appeared, Dr. Paris says:—

> "There were, moreover, several standard works on Materia Medica, and approved systems of Pharmaceutic Chemistry; each of which imparted all the information which the science of the day could afford, with respect to the natural history, sensible qualities, chemical composition, and medicinal virtues of the several articles of the Materia Medica, as well as giving clear explanations of the various pharmaceutical operations by which such bodies might be rendered available as remedies; but here ended their instructions. They placed remedies in the hands of the pupil, but where was the work which would teach him to mix, combine, and direct their application in the form of an extemporaneous prescription? where was the friendly Mentor to point out to the young practitioner the difficulties and dangers of his path? Amid all the perplexities of his novitiate, there is none more embarrassing than that of adapting a prescription to all the circumstances of a particular case with therapeutical propriety and chemical accuracy. On entering his career of practice, he is necessarily abandoned to the alternative of two great evils—a servile routine on the one hand, and a lawless empiricism on the other. It was the want of such assistance to steer my way amid shoals and rocks that, more than thirty years since, first suggested the plan of the present work."

In this edition, the author leaves out the part devoted to the Materia Medica or Special Pharmacology, on account of the excellent works on the same branch now on the table of every intelligent practitioner; such as Pereira's Materia Medica and Christison's Dispensary. In compensation, he offers a much more extended view of that province, which he regards as peculiarly his own, viz.: "THE PHILOSOPHY OF MEDICAL COMBINATION, from which alone can be deduced THE THEORY AND ART OF PRESCRIBING."

In running over the pages of Part I., the Revolutionary History of the Materia Medica, including the topics of superstition, credulity, skepticism, false theory, devotion to authority and established routine, we felt as if we were transferred back to the days of our pupillage. But so complete a metamorphosis has the work undergone, more especially in other parts, that, at first view, we should scarcely have recognized it.

Part II., *On the Physiological and Chemical Action of Medicinal Substances*, contains the author's classification, his views of the *modus operandi* of therapeutic agents, and the indications by which their employment should be guided.

Part III., which is *On the Theory and Art of Prescribing, with Illustrative Formulæ*, opens a rich field for the cultivation of the student and young practitioner. Here the author is quite at home. He adopts and acts upon the sentiment so happily expressed by Mr. Whewell. "It has been common to assert," says Mr. W., "that facts alone are valuable in science; that theory, so far as it is valuable, is contained in the facts; and so far as it is not contained in the facts, can merely mislead and preoccupy men; but it should be known that *facts can only become portions* *of knowledge as they become classed and connected.*" The points discussed in this part of the volume, viz., the relative value and efficacy of medicines, when administered separately or in combination, and also an exposition of the circumstances requiring these modifications, are of the highest value to the practitioner; for, without them, even the most complete acquaintance with general therapeutics and with pathology, would be comparatively of little avail.

> "May we not then," says Dr. Paris, "by carefully analysing the compound productions of Nature, and observing the influence which each element exerts in the combination, as exemplified in her more valuable remedies, reasonably entertain the hope of deriving important hints for improving the arrangement of art, while art, in return, may thus be enabled to modify and adapt to particular purposes the products of Nature; but in every attempt to accomplish such objects, we must be careful how we infringe her laws, since it is only by obeying Nature that we can expect to command her services."

The notes of Dr. Lee, who has earned for himself within a few years the reputation of being the prince of annotators, are to the point, always serving to explain or amplify, in the most happy manner, the topic in the text under illustration. This earnestness in his vocation was well exhibited in his recent edition of Pereira on Food and Diet; and it will be still more effectually displayed in two works now in press, viz.: Guy's Medical Jurisprudence, and Copland s Medical Dictionary.

Art. XIX.—*The Anatomy and Surgical Treatment of Abdominal Hernia; with numerous Plates.* By Sir Astley Cooper, Bart., F. R. S., Surgeon to the King, and Consulting Surgeon to Guy's Hospital. From the second London Edition. By C. Aston Key, Senior Surgeon of Guy's Hospital, and Lecturer on Surgery. Philadelphia: Lea & Blanchard, 1844. Large 8vo., pp. 428.

Any attempt to portray this great and valuable work, which has now been before the profession full forty years, is wholly unnecessary. The renowned surgical achievements of the late Sir Astley Cooper are not hidden under a bushel, but the impress of his genius has been stamped in marks indelible, upon the current age.

The appearance, at this time, of a new edition, introduced by the author's friend and colleague, C. Aston Key, who is himself distinguished as an able and experienced surgeon, affords the strongest testimony in favor of its real and permanent value. In writing this work, Sir Astley's object was to make a volume strictly anatomical and practical in its plan. In his preface, he tells us, at the outset, that his design is "to describe the anatomy and surgical treatment of abdominal herniæ." Further on he says,

> "I have almost uniformly, in the following work, avoided quoting the opinions of authors on this part of surgery. This I haved one, certainly not from any wish to slight or undervalue the labors of some of the most excellent physi-

ologists and practitioners that have adorned our profession, but because it did not form part of my plan to give a history of this branch of surgery, and because I wished to confine myself to the very wide scene of observation afforded by the two noble institutions of St. Thomas's and Guy's Hospital, and to that portion of the practice of this metropolis, which I have been personally able to authenticate. I have, therefore, related no case, and given no remark, to the truth of which I cannot vouch."

More than this need not be said, save a word as regards the plates. The subjects of these were principally taken from the dead body by Sir Astley himself, a few being made from preparations previously in the collection of St. Thomas's Hospital; and to insure their accuracy as faithful copies, the outlines, we are told, have been laid down from an exact measurement of parts. The lithographic plates, in the present volume, are well executed. These numerous plates represent the surgical anatomy of the parts concerned in the several kinds of hernia—the trusses of different constructions for the support of inguinal and femoral herniæ—different views of preparations after the operation, illustrating the morbid changes of tissue and position caused by the disease—and lastly they indicate both the dangers of incisions made in the wrong direction, and their comparative safety, if the mode designated by the author is pursued.

So valuable is this excellent work on hernia, and so inaccessible has it heretofore been to the great mass of the profession in this country, that we feel that it is due to Messrs. Lea & Blanchard to express our conviction, that they deserve the thanks of the medical public for this effort in the cause of medical science..

Art. XX.—*A Treatise on the Diagnosis and Treatment of Diseases of the Chest, Diseases of the Lung and Windpipe.* By William Stokes,. M.D.,. M.R.I.A., Physician to the Meath Hospital, etc. Second Edition, with an Introduction and numerous Notes, by the American Editor. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1844. 8vo., pp. 528.

Considering the well-known reputation of Dr. Stokes as a judicious and eminently practical writer, we deem it wholly unnecessary to do more than point out the general character of this work, with a more special account of what has been done by the industrious American editor.

"In the composition of the work," says Dr. S., "I have kept two great objects steadily in view. Of these, the first is the close connection of the study of physical signs with that of symptoms, so as to illustrate their mutual bearing on diagnosis, and remove that unjust opprobrium thrown on the advocates of auscultation,. that they neglect the study of symptoms. In the next place, I have endeavored to simplify the subject as much as possible. A sufficient experience has convinced me, that any man of ordinary education may acquire the power of distinguishing thoracic diseases in a degree sufficient for all practical purposes, without troubling himself with those excessive refinements in the diagnosis from acoustic signs, on which some have improperly prided themselves. I have endeavored to adapt this work to the wants of the practical man, always assuming that he is familiar with the groundworks of the subject—with the characters and causes of physical signs, as originally taught by Laennec, and more recently investigated in the works of Forbes, Williams, and Clark. Hence, I have not entered at any length into the characters of physical signs, but rather into the art of reasoning justly upon them; for it is in this that most observers fail. It cannot be too often repeated, that physical signs only reveal mechanical conditions, which may proceed from the most different causes; and that the latter are to be determined by a process of reasoning on their connection and succession—on their relation to time, *and their association with symptoms:* it is in this that the medical mind is seen. Without this power, I have no hesitation in saying that it would be safer to wholly neglect the physical signs, and to trust in practice to symptoms alone."

The subjects embraced in this volume are: *Diseases of the Mucous Membrane of the Bronchia; Diseases of the Larynx and Trachea; Pneumonia; Gangrene of the Lungs; Perforating Abscess of the Lung; Cancer of the Lung; Tubercle of the Lung; and Diseases of the Pleura.*

The American editor, who, though anonymous, is obviously Dr. John Bell, has made very considerable additions, consisting of an Introduction, an Appendix, and numerous notes. As Dr. S. says in the above extract that he has "not entered at any length into the characters of physical signs," this deficiency is fully supplied by the American editor, who says that "by the aid of the Introduction and Appendix, the reader is placed in possession of an elementary knowledge of auscultation and percussion, and the various views held just now, on the philosophy of the former of these two means of physical diagnosis."

"Considerable additions," says the American editor, "by notes, will be found on the *treatment of bronchitis; the morbid anatomy of dilatation of the bronchial tubes; dry catarrh—asthma; treatment of chronic laryngitis; pneumonia of children,—its pathology and treatment; typhoid pneumonia; gangrene of the lungs; formation and origin of tubercle,* including its *origin, seat, and connections;* the *symptomatology, etiology, and treatment of phthisis pulmonalis; different species of deformity of the chest after pleurisy;* and *cause of metallic tinkling.*"

The first edition of this treatise, we believe, was also republished in this country; that is, in the "Library," edited by Dr. Dunglison. But the present edition has been much enriched both by the author and editor. No inconsiderable part of the book is made up of Dr. Bell's notes, and it now constitutes one of our most useful treatises on the diseases of the chest, characterized by sound pathology and rational therapeutics.

Art. XXI.—*An Essay towards a correct Theory of the Nervous System.* By John Harrison, M.D., Professor of Physiology and Pathology in the Medical School of Louisiana. Philadelphia: Lea & Blanchard. 1844. 8vo., pp. 292.

This volume, notwithstanding we may not agree with the author, that he has made a very near approach "*towards a correct theory of the nervous system,*" has impressed us very favorably. It embraces topics worthy of the medical philosopher; and were it only on the ground of the valuable suggestions and commentaries, both pathological and therapeutic, made by the author in the prosecution of his physiological investigations, we would recommend it to the attention both of the student and the professional reader.

> "It will be observed," says the author, "that this work is entitled an *Essay.* It is indeed an attempt—perhaps an unsuccessful one—to bring a large class of phenomena, seemingly the most opposed to the ordinary laws of nature, within the compass of those laws. In this attempt, I am not aware of having violated in any instance the strict rules of inductive logic. I have endeavored to explain—as far as explanation was possible—known facts, upon well-known and received principles:—I have admitted no hypothesis wherewith to cut the Gordian knot, when to untie it was impossible."

* * * * * * *

> "It becomes me to add another remark. The affections of the nervous system are of two kinds. The first consists in a corporeal molecular change; the other is psychological. It is obvious that though the first may—nay, does always accompany the latter—these affections have nothing in common; they differ in kind, and differ *toto cœlo.* To explain *sensation, thought,* etc., by corpuscular change in matter is impossible: they are ultimate facts, and like all such, incomprehensible, or, rather, are to be known only in themselves. I beg it be observed, therefore, that it is only with the corporeal change which occurs in the nervous system, that this Essay is concerned."

The first chapter is headed "On Transmission," (a rather unusual term), which presents a summary of the phenomena in which the nervous system is concerned. Chapter II. treats of "the nature of the changes undergone." Chapter III. is headed, "on the principles of natural philosophy and chemistry," as more immediately connected with the elucidation of physiological phenomena. He here shows that, as very different properties are found in certain chemical compounds, though composed of precisely the same substances, and in the same ratio, and of the same equivalents, so we ought to expect to see changes in vital parts under the similar circumstances of a slight, and at times of no apparent difference in the quantity and arrangement of matter. Chapter IV. treats "on the manner in which the change is transmitted." Innervation is the subject of Chapter V. In the next chapter, "on certain effects of nutritive action," the author opens with aphorisms expressive of certain leading principles, "the truth of which," he says, "I do not think will be questioned by any one conversant with the present state of physiology." As a specimen, here are the first three:

> "*Aphorism* I. Every living being is composed of solid parts, and a fluid, called *nutritive;* and it is by their reciprocal action on each other that the phenomena of life are produced.
>
> "II. The action spoken of, is essentially a *chemical* one, since it results in the transformation of substances into others chemically different. The results, reduced to their simplest expression, are *nutrition* and *secretion.*
>
> "III. Like all other species of chemical action, that of nutrition will be more or less intense, according to the relation which the nutritive fluid and tissues have to each other. That is to say, if either be altered in composition, nutritive action is perverted, and at the same time, according to circumstances, it may be increased or diminished in intensity."

We do not suppose that much would be risked, in the way of loss of reputation, in demurring against the proposition that nutrition and secretion are the results of chemical action. In reply, we would commend to the attention of the author, the papers in this Journal relative to the hypotheses of the chemico-physiological school.

The five remaining chapters are devoted to the consideration of—*Adynamia*, *Hyperdynamia*, *Ataxia*, *Explanation of certain Phenomena upon the foregoing Principles*, and lastly, their *Application to Pathology*. The concluding portion of the volume, nearly one-half, is taken up with an Appendix of three papers, viz., *An Examination of the Electric Theory of Nervous Action*, on *Life*, and on *Absorption*.

We repeat that, if the reader should not be satisfied, on reaching the end of the volume, that he has found the philosopher's stone, "the correct theory of the nervous system," he will, at the same time, find himself rewarded by the perusal of subjects of collateral disquisition. The author evidently has given much attention to this subject, and his book evinces no inconsiderable display of talent.

Art. XXI.—*Address on Insanity before the New York State Medical Society.* By Samuel White, M.D., President of the Society and Senior Proprietor of the Hudson Lunatic Asylum. Pp. 20.

The management of the insane, within comparatively recent years, has assumed quite a new aspect. Instead of chains and the lash, the prison door is now thrown open, and the maniac is brought forth to the light of heaven. For this result, civilisation is indebted to Pinel, who deserves, for its accomplishment, a monument more durable than brass. Besides, one cause which greatly retarded the pathology of insanity, that is, viewing the question metaphysically to the neglect of corporal phenomena, is now also fortunately removed.

The present essay, both theoretically and practically, we hold in high estimation, as it obviously bears on its face that cast which it only could derive from an intimate knowledge of the subject, based on long experience.

The following is sound doctrine:

> "There is no such thing as a diseased mind without its connection with matter. From the intricacy of the cause, and the untowardness of its manifestations, mental pathology has been greatly neglected until within the last quarter of a century. It is now, however, generally conceded by the talented writers abroad, and the able conductors of asylums in this country, that we are to look for the proximate cause of insanity in the physical, and not in the metaphysical, portion of our being. Hence, organic lesion, that which specifically dethrones the intellect, under exciting causes, is a theme demanding our unceasing scrutiny, if happily we may implant one ray of hope where unmitigated anguish reigned."

The author disagrees with Dr. Rush in the opinion that "the cause of madness is seated *primarily* in the blood-vessels of the brain." Dr. White's view is as follows:

> "*Irritation* specifically acting on the brain and nervous system, and sympathetically on the vascular, may define the phenomena of insanity. The brain

and nervous system being primarily excited, increased vascular action is its necessary concomitant. Hence increased pulse, turgescence of blood-vessels, and pain in the head, are the ordinary attendants of incipient insanity.

* * * * * * *

"Great errors have been committed, also, in post-mortem examinations, by placing *consequence* for *cause*, forgetting that protracted disease had wrought insidiously these physical changes—conclusively proving that the brain is not, in its incipient, but in its chronic stage alone, organically affected. If it were not so, how could we account for the radical cures of nine cases in ten of incipient insanity, under judicious location, with suitable medical and moral treatment. Whereas, disordered functions, by neglect, having taken on diseased structure, little more can be done than palliate and render comfortable. These are self-evident truths, and amply confirmed by every one conversant with the treatment of this malady. Who, then, can answer for the mawkish antipathy of parting for a time with a friend, in imminent danger of becoming incurable? augmenting, in a ten-fold degree, by such neglect, the expense of their support, endangering fatuity, and destroying every prospect of future enjoyment or usefulness."

In conformity with the phrenological doctrines, Dr. W. says—

"As the cerebral part of the brain may be considered the seat of the primitive faculties, and the cerebellum of the animal passions, so are we to look for the varied external causes of insanity, as they preponderate or impair these distinct functions."

Upon the subject of treatment, our author's remarks are very judicious:

"Copious abstractions of blood should ever be avoided in insanity as endangering dementia. Very few are the cases of insanity, even in its incipient stage, that admit of venesection. In such only as are plethoric and in the vigor of life, is it admissible at all, and then only in a cautious degree. The pulse is deceptive, for though there may be increased impetus of blood in the carotids, yet they will be found compressible, and the radial artery feeble in its action, showing an unequal distribution rather than congestion. In such cases where symptoms seem urgent, topical blood-letting, by leeching or cupping, may safely be resorted to without danger of collapse. In the treatment of six hundred cases, venesection has not been resorted to in more than one in a hundred, after they entered the Institution, and then only moderate in quantity. Many, however, have been brought to the Asylum, after two or three copious bleedings, undoubtedly with the best intentions; yet the results have proved a prostration of the vital energies, more difficult to overcome than the original disease."

In puerperal insanity, he thinks bleeding wholly inadmissible. In insanity, generally, active emetics he also regards as seldom allowable, unless there is great derangement of the digestive organs. In such cases, an alternate treatment of blue mass and ipecacuanha is adopted. Instead of using drastic purges, he advises the use of laxatives. As regards narcotics and sedatives, opium, camphor, morphia, stramonium, conium, belladonna, and aconite, though requisite to be used with great caution, are often of much service.

"These are often improved by combination with other remedies. For instance, opium, ipecac, and soap, equal parts, forms a pill much easier given than Dover's powders. Camphor mixture, with half a grain of tart. antimony, and five drops of laudanum to the ounce, given in half ounce doses, is a powerful sedative and adjuvant in allaying nervous excitement. Morphia with colchicum, when there is a gouty or rheumatic diathesis, endangering metastasis, is a valuable auxiliary in treatment. Stramonium acts specifically on the sensorium, stimulating the absorbents. A saturated tincture of the seeds in camphor mixture is the best mode of administering it. Conium is the best combined with the different preparations of iron. Belladonna and aconite are often improved by combination. Extracts of these vegetables can only be relied upon when evaporated by solar heat."

Counter-irritants and warm bathing are also regarded as of the highest efficacy.

"In the second stage of insanity, a more tonic treatment becomes necessary, and it is to be regulated according to the age, constitution, and temperament of the patient. The various preparations of iron, mineral acids and quinine, nitrate of silver, followed with a solution of iodine to prevent a discoloration of the skin, conjoined with suitable moral treatment, will often decide the future prospects and destiny of the patient."

Art. XXII.—*Anatomical Atlas, illustrative of the Structure of the Human Body.* By Henry H. Smith, M.D., under the supervision of William E. Horner, M.D. Lea & Blanchard: 1844. Part II. 91 Figures.

We were much pleased with Part I. but the Second Part gratifies us still more, both as regards the attractive nature of the subject (*the Dermoid and Muscular Systems*), and the beautiful artistical execution of the illustrations. We have here delineated the most accurate microscopic views of some of the tissues; as for instance, the cellular and adipose tissues, the epidermis, rete mucosum, and cutis vera, the sebacious and perspiratory organs of the skin, the perspiratory glands and hair of the skin, the hairs and nails. Then follows the general anatomy of the muscles, and lastly, their separate delineation.

We would recommend this Anatomical Atlas to our readers, in the very strongest terms.

Art. XXIII.—*Drawings of the Anatomy of the Groin; with Anatomical Remarks.* By W. Darrach, M.D., Professor of the Principles and Practice of Medicine in the Medical Department of Pennsylvania College, etc. Philadelphia: Lindsay & Blackeston. 1844. 8vo. pp. 128.

This work consists of four well-executed plates, and 128 pages of explanatory matter. The original drawings were executed by M. Chasal of Paris, from dissections made by the author, in the *Pavilions de l'Ecole de Medicine*, during the winter of 1820. In the present edition, they are reduced in size.

The object of the author is to add something to pathology and to precision in practice; and in this laudable effort, he has not been without success.

Art. XXIV.—*The Position and Prospects of the Medical Student; an Address delivered before the Boylston Medical Society of Harvard University, January* 12, 1844. By Oliver W. Holmes, M.D.

Address to the Graduates of Geneva Medical College. Delivered January 23, 1844. By James Webster, M.D., Professor of Anatomy in Geneva Medical College.

Valedictory Address, delivered before the Graduates of the Medical Department of Pennsylvania College, Session 1843–4. By Henry S. Patterson, M.D., Pofessor of Materia Medica and Pharmacy.

We have read Dr. Holmes's Address with much pleasure, which has been interrupted only by the regret that we cannot enable our readers to enjoy the same satisfaction. He writes in a noble strain (as well he might, seeing that his name is in Griswold's book of American poets), holding captive the mind of his reader, as we presume he also did that of his auditors. He tells us that, at no period of the history of medicine, have the different branches of the science ever presented themselves to the medical student in a manner more adapted to kindle his zeal and energies, than at the present time. He depicts in glowing language the application of the Microscope to anatomy and physiology, and the progress of Chemistry in its application to the phenomena of life. Peculiar to the age are also Pathological Anatomy, Auscultation, and Medical Statistics. As regards various practical improvements in the different branches of our art, he remarks:

> "The simplification of prescriptions, the isolation of the active principles of many vegetable products, the introduction of new and useful remedies into practice, are matters of interest, but these may be considered as a part of the steady growth of knowledge, and hardly as marking an epoch of progress. The same remark may be applied to the improvements in mechanical surgery. Strictly speaking, this art may be susceptible of continual improvement, in the same way as watch-making or printing; but that each of these pursuits has pretty clearly shown all its essential capabilities, will be generally conceded. We would not undervalue the recent achievements of ingenuity in the invention of subcutaneous operations and the revival and improvement of plastic surgery."

From his very happy remarks upon the position and prospects of the medical student, more especially at his entrance upon the active duties of his profession, we make the following truthful extract;

> "You are to enter upon your professional duties at a time which offers some peculiarities affecting your interests and comfort. Society is congratulating itself, in all its orations and its periodicals, that the spirit of inquiry has become universal, and will not be repressed; that all things are summoned before its tribunal for judgment. No authority is allowed to pass current, no opinion to remain unassailed, no profession to be the best judge of its own men and doctrines. The ultra-radical version of the axiom that all men are born free and equal, which says, 'I am as good as you are,' and means, 'I am a little better,' has invaded the regions of science. The dogmas of the learned have lost their usurped authority, but the dogmas of the ignorant rise in luxuriant and ever-renewing growths to take their place. The conceit of philosophy, which at least knew something of its subjects, has found its substitute in the conceit of the sterile hybrids who question all they choose to doubt in their capacity of levellers, and believe all that strikes their fancy in their character of reverential mystics. This is the spirit which you will daily meet with applied to your own profession, and which might condense its whole length and breadth into the fol-

> lowing formula: A question involving the health and lives of mankind has been investigated by many generations of men, prepared by deep study and long experience, in trials that have lasted for years, and in thousands upon thousands of cases; the collected results of their investigations are within my reach: I, who have neither sought after, reflected upon nor tested these results, declare them false and dangerous, and zealously maintain and publish that a certain new method, which I have seen employed once, twice, or several times, in a disease, of the ordinary history, progress, duration and fatality of which I am profoundly ignorant, with a success which I (not knowing anything about the matter) affirm to be truly surprising, is to be substituted for the arrogant notions of a set of obsolete dogmatists, heretofore received as medical authorities."

The valedictory addresses of Drs. Patterson and Webster are also choice productions, each being peculiarly appropriate to the occasion. As that of Dr. Webster records a very unusual circumstance, perhaps one that never occurred before, viz., the medical graduation of an Aboriginal —one of the Senecas—we will here give room for the extract:

> "In conclusion, it must be a most extraordinary occasion which could induce me to single out one from among you as a subject of comment; but the peculiar circumstances will, I trust, be an apology to him and to you. Look around upon this assemblage come up to this solemn temple to bear witness to your professional vows—associate in your mind the place and the occasion—then remember that there is one among you, almost the last remnant of a race fast fading away; one who is 'native and to the manor born;' in whose veins courses the blood of a long line of distinguished chieftains, once the rightful and undisturbed possessors of the very soil we occupy. What a spectacle of moral grandeur does he present in his history, his object and his aims! Born without those advantages it has been your lot to know, this native son of the forest was early brought to the knowledge of his Creator. Leaving now the allurements which are spread before and around him, he goes forth among his own people, in the true missionary spirit, to devote the energies of a vigorous and cultivated mind to the diffusion of the truths of revelation—to teach the plan of salvation—to cluster around him, the associates of his boyhood, the youthful and the aged of his tribe, at the altar of the Christian's God—and in humble imitation of the example of his divine Master, to unite in his mission, the power to heal their diseases, to minister to their sufferings, and to relieve their infirmities.
>
> "Need I say more to you, than that the influence of such an example must not, cannot, be lost upon you! Cherish, therefore, the recollection of your old associate, and hereafter the remembrance of the Seneca will revive the scene now passing before us, whilst the silent appeal which his example makes to every one of you, will find an answering echo in your bosoms."

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *On the Formation of Wax, in reference to the Theory of Nutrition.* By Mr. Milne Edwards. (*Comptes Rendus des Séances de l'Academie des Sciences*, 18th September, 1843.)—Huber, the celebrated entomologist, by confining bees in a close hive, and feeding them with pure honey or sugar, found that they continued to construct the honeycomb as if they had been allowed to get access to flowers. He therefore inferred, that bees possessed the power of converting honey into wax. M. Griendlach, of Cassel, more recently attempted to prove the same point. As this fact seemed to be opposed to the theory of nutrition, as advanced by MM. Dumas, Boussingault, and Payon, M. Dumas, with the assistance of Mr. Milne Edwards, repeated the experiment. They analyzed a few of the bees before the experiment, to ascertain what amount of fat their bodies contained, and again at the end of the experiment, to see whether any fat was lost. They satisfied themselves that bees, when shut up and fed with sugar or honey, continue to secrete wax; and therefore infer that they possess the power of converting saccharine matter into wax. Mr. Edwards, however, is far from thinking that this interferes with the general truth of the conclusions arrived at by Dumas, viz., that animals do not in general possess the power of converting one substance into another of a different chemical composition, provided that the other is intended to form a constituent portion of the body. Wax, however, is a true secretion, and, in this respect, resembles the bile or other secreted products, and does not come under the same laws as those substances which are intended to form part of the animal body.—*Edinburgh Medical and Surgical Journal.*

2. *Nutrition of Animals with Sugar.* By M. Chossat. (*Comptes Rendus des Séances de l'Academie des Sciences*, 16th October, 1843.)—To ascertain the effects of a diet of sugar, M. Chossat made seventeen experiments on pigeons and turtle-doves, and the phenomena observed during life were as follows:—

1. At the beginning the animals remained calm; but after a while, uneasiness was observed; and toward the end of life, stupor and prostration of strength, sometimes interrupted by convulsive movements.
2. The sugar was sometimes absolutely refused; often, also, it was ejected by vomiting.
3. The evacuations were sometimes very abundant, at other times were more moderate in quantity. More rarely still, they were in less than natural quantity. They were in general liquid and bilious.
4. The respiration was sometimes natural during the greater part of the experiment; at other times, and that only during a part of the experiment, it was observed to be more or less short, impeded and sibilant.
5. The animal heat was first maintained at a natural elevation, but later in the experiment it fell, and before death was very low. In other cases, however, it was notably elevated, and when death occurred, the animal heat was greater than natural.
6. All the experiments terminated in death, which seemed to take place by a

kind of asphyxia. The lungs were found œdematous, and the brain and spinal marrow strongly injected with bluish-black blood.

M. Chossat also subjected nine pigeons to a diet of sugar, for the purpose of ascertaining whether this substance contributed to the production of fat. He ascertained that a sugar diet sometimes contributes to the formation of fat, sometimes of bile. That in those cases where there is a tendency to the formation of fat, there is a greater or less amount of constipation; but when to the formation of bile, there is diarrhœa. From this, it may be presumed that, during a sugar diet, we may have it in our power to favor the formation of fat at will, by inducing a costive habit of body.—*Edinburgh Medical and Surgical Journal.*

3. *On the Extirpation of the Spleen and Thyroid Gland.* By Dr. Bardeleban, of Berlin.—Since the publication of my experiments on the effects produced by the extirpation of the spleen and thyroid gland, I have repeatedly performed the operation on dogs, cats, &c., and these experiments have led me to conclude—1° That the extirpation of the spleen in animals which survive, does not seem to affect their health. My experiments were performed on dogs, cats, rabbits, and guinea pigs. All the rabbits died of peritonitis, owing to the depth at which the spleen is situated. 2° That the animals are not more voracious than before the operation. 3° That the organ never grows again. 4° That dogs and rabbits, from which the thyroid gland had been removed, offered no difference, except in one case, in which it was performed on a rabbit, when venereal desire was increased; the which is deserving of notice, as the contrary was said to be the fact. 5° That animals deprived of both, offer no functional disturbance; but as both operations are very dangerous, we must not expect them to succeed often; and among the many cases in which I performed them, only one dog recovered; and it is sufficiently interesting to be quoted. The spleen was extirpated on the 10th July, 1841, and, a month after, the thyroid gland; no consecutive accident took place with the exception of a phlegmon on the neck; at the present moment it is perfectly well, and it is impossible to discover any difference between it and other dogs of the same species. 6° That contrary to the opinion of certain physiologists, the extirpation of the spleen does not decrease the desire of the union of the sexes; and as to its rendering the animal incapable of fecundating the bitch, I have a proof of the contrary, in an animal about to pup 7° That the volume of the spleen is always greater where the organ is removed when the stomach is full, than when empty; owing to the quantity of blood contained in its issue.—*London Medical Times.*

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

4. *Epidemic Fever prevailing in Edinburgh, Glasgow, Dundee, and other Towns of Scotland.*—This disease, like that of Rondout in our own State, seems to have taken its origin in an epidemic Influenza; and what affords the most striking analogy, is, that it finally assumed a character having a marked resemblance to Yellow Fever. It was first called *Influenza*, then *Yellow Fever*, as also *Spotted Fever* and *Common Typhus.* The foreign medical journals give long and interesting accounts of the epidemic, but our limited space just now precludes anything but the merest notice. The following extracts are from the "London and Edinburgh Monthly Journal of Medical Science:"

"One of the most common symptoms in the highly congestive form of the disease, is yellowness of the conjunctivæ, and of the whole surface of the body. It generally appears between the third and seventh day, and is always most intense on the face, neck, chest, abdomen and thighs. The hue of the neck and chest is the most vivid ; then comes, of equal, or nearly equal brightness, the abdomen ; then, somewhat fainter, the thighs ; then, considerably paler still, the legs, arms, and fore-arms ; the hands and feet get their color later, always to a much less extent, and sometimes not at all. The yellowness occasionally appears during the relapse, and not in the first attack. I have seen it present in both.

" Associated with the yellowness, there are generally depression, less or more delirium, dusky, and often porter-colored urine, black melæna-like stools, and hemorrhages from some of the mucous membranes. In the worst of the cases, black coffee-ground-like matter is ejected from the stomach, and passed per anum.

" In some cases, the black vomit occurs without the yellowness ; and, on the other hand, at the autopsy of yellow patients who have had no black vomit, this matter has been found in the stomach, and other parts of the alimentary canal.

" Enlarged liver and spleen, and tender and tympanitic abdomen, are less constant, but still very usual symptoms in cases characterized by yellowness or extreme congestion. Difficult micturition has been complained of by several of my yellow and purple patients.

" A deep persistent purple color of the face, appearing before, or immediately after the invasion of the disease, is a certain prognostic of danger, and is seldom absent in those destined to be yellow."

At Dundee, yellowness of the skin and black vomiting were quite common in the disease ; and the frequency of these symptoms, as well as the duration of the disease, may be ascertained from the following table, which presents all the cases that terminated fatally in the Dundee Infirmary :

No.	Name.	Sex.	Age.	Day of the Disease on which Patients died.	
1	D. Y.	M.	60	12th.	Skin yellow, black vomit.
2	J A.	M.	43	11th.	Skin yellow, no vomit.
3	W. P.	M.	55	15th.	Skin yellow, no vomit.
4	W. B.	M.	28	11th.	Skin yellow, brownish bilious vomit.
5	J. G.	M.	33	17th.	Skin yellow, no vomit.
6	D. M.	M.	64	9th.	Skin yellow, brownish bilious vomit.
7	M. W.	F.			Skin yellow.
8	R. A.	M.	69	11th.	Skin yellow, black vomit.
9	T. R.	M.	44	15th.	Skin yellow, black vomit.
10	M. N.	F.	25	14th.	Skin yellow, black vomit.
11	M. F.	F.	23		Skin yellow.
12	M. M.	F.	30	11th.	Skin yellow, black vomit.
13	J. B.	M.	40	9th.	Skin yellow, no vomit.
14	J. R.	M.	36	15th.	Skin yellow, black vomit.
15	C. M.	F.	39	7th.	Skin yellow, no vomit.
16	W. M.	M.	60	8th.	Skin yellow, no vomit.

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5. *Masturbation.*—Professor Rignoli, of Pisa, thinks that he has observed in cases of women who were addicted to this disgusting habit, that the finger used for that purpose becomes covered with warty vegetations, and that the posterior lip of the womb gets to be considerably enlarged ; indeed to such an extent, that it sometimes forms a tumor so large as to require excision, and which has been mistaken for a polypus or a cancer. In some of these cases warts will

likewise be found on the vulva, similar in character to those which are developed in the same situation in cows which have been recently covered. Burdach, who noticed the same facts, attributes the phenomena to the action of the plastic juices secreted during venereal excitement.—*Italian Journal.*

6. *Prevention of the Contagion of Syphilis.*—The problem of the means of extinguishing syphilitic contagion, appears to have been solved at the hospitals of St. Petersburg. In principle, it appears simple enough, the point to be effected being merely to prevent the absorption of muco-purulent matter, either by means of washings, which remove it directly, or by liquids, such as the chloride of lime, which have the property either of decomposing it, or of preventing otherwise its inoculation. In practice, however, it proves a matter of great difficulty, especially in the female. In St. Petersburg, the most satisfactory results are said to have followed the use of the prophylactic soap of Dr. Pfeffer. The active ingredients of this soap appear to be—in 500 grains of the substance, 6 grains of the bichloride of mercury, 4 of tannin, and 45 of chloride of lime, incorporated into a soap with soda.—*Annales de Thérapeutique*, Nov. 1843. from the *Lon. and Edin. Monthly Jour. of Med. Science*, March, 1843.

7. *Syphilis.*—M. Ricord, in the *Prov. Med. Journ.*, expresses his opinion that syphilis, like small-pox, occurs generally but *once* in the same individual; and he explains its reappearance, by saying that, so frequent is a relapse, that it may be fairly questioned, whether the syphilitic diathesis, once established, can ever afterwards be completely eradicated. This is one of those extraordinary statements to which neither the profession nor the public will lend credence; it is manifestly contrary to common sense and experience. As well might it be said that a man's appetite never occurs but once, but when the *appetite* diathesis has been excited, it can never be completely eradicated.

Secondary Syphilis.—Secondary syphilis, according to Ricord, is always a chronic disease, and its diagnosis is generally easy. It rests chiefly upon two points; first, the antecedent history of the primary infection; and, secondly, the physical characters of the secondary symptoms themselves. On one symptom alone can a positive diagnosis be made, without any reference to the primary infection; that is, the mucous papulæ, the appearance of which is so characteristic as to leave no doubt whatever of the nature of the case.—*Medical Times*, March 30, 1844.

8. *M. Velpeau's Experience with Nitrate of Silver in Diseases of the Eye.*—1. Nitrate of silver is the best topical application that can be employed in a great number of acute and chronic affections of the eye.

2. In the various forms of blepharitis it should be used as an ointment.

3. In inflammations of the eyelids it is most advantageously applied in the solid form.

4. In slight inflammations of the conjunctiva a solution of from five to fifteen centigrammes of nitrate of silver to thirty grammes of water are generally sufficient.

5. In purulent conjunctivitis the dose may be increased from two grammes to thirty grammes of water.

6. The use of the solid nitrate of silver may also be beneficial, but is hazardous.

7. It is always very advantageous, in the treatment of conjunctivitis, to alternately increase and diminish the dose of nitrate of silver.—*Dublin Med. Press.*

9. *Pneumonia in a Child of Eleven Months.*—Mr. Adams presented the recent specimens, taken from the body of a child eleven months old, which had died of acute pneumonia. It lingered but five or six days under this illness. The surface was very pale, yet the skin was intensely hot, and there was a short, painful cough. On the second day of the attack, the right lung was already solidified up to the clavicle; the left was still permeable, and the respiration

puerile. On the third day, the respirations were 62, and the pulsations 170 in the minute. On the next day, the respirations were 72, the pulsations 200. When the chest was laid open, after death, some petechial spots were observable on the surface of the right lung, not unlike those met with in purpura; the lung did not crepitate; it looked more like spleen than lung; it sunk in water, and had the appearance and blue color, as well as the density, of the fœtal lung. This was a circumstance of importance to the medical jurist. Mr. Adams produced a drawing of a specimen of the same disease, that he had communicated at a former meeting. The subject in that case was a child who had inhaled very hot steam from the spout of a kettle; œdema of the glottis ensued. Tracheotomy was performed, and relief obtained; but pneumonia, much resembling that in the present case, came on, of which it died four days after the accident.—*Proceedings of the Pathological Society of Dublin.* From the *Dublin Journal of Med. Science.*

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10. *On the Rarity of Consumption in Marshy Countries.* By M. Nepple of Lyons. (*Bulletin de l'Academie Royale de Medicine*, 7th November, 1843.)—In an interesting communication to the Royal Academy of Medicine, M. Nepple has brought forth evidence to prove that phthisis is a very rare disease in marshy countries. He states that, from the year 1818 to 1829, during which he practised in the marshy canton of Montluel, he was struck with the small number of consumptive, scrofulous, and even goitrous individuals he met with. On investigating the subject more minutely, he found that the more marshy the district, and the greater the number of stagnant ponds and morasses, the more rarely did he observe any traces of these diseases in the farmers and laborers of the district.

To obtain more numerous facts, he wrote to several of his medical brethren in the surrounding cantons, to ascertain whether the same fact had been observed by them. M. Duteche, physician in the canton of Chalamont—a canton much fuller of ponds and marshes than that of Montluel—wrote in answer, that he had never seen phthisical or scrofulous individuals in the communes of Marlieux, Versailleux, Lachapelle, or Saint Nizier-le-Desert, all situate in the Pays de Dombes, where the stagnant marshes are very numerous, and the population very unhealthy. He added, that so convinced was he of the advantages phthisical patients would derive from a residence in such localities, that he purposed to establish a *maison de santé* in an ancient chateau which had been abandoned by its proprietor on account of its general unhealthiness.

M. Pacoud of Bourg, during the course of a practice of forty-five years, had not met with a single case of phthisis during all that time. The hospital of Bourg, which receives its patients from all the surrounding marshy districts, does not contain in its records the history of even a single case of this disease. M. Pacoud adds, however, that children who are boarded away from home, and consequently leave those marshy districts in early life, are occasionally affected with consumption, but removal to the marshy district does not appear to remove the disease. Dr. Hudelet of Bourg bears witness to the same fact of the infrequency of phthisis in the marshy districts of Villars, Marlieux, Saint-Nizier; he never saw a single case of that disease.

Dr. Monfrin, physician to the Hospital Chatillon-les-Dombes, states that phthisis is very rare in the country of the Dombes; for three years that the Mayor of Chatillon and he kept registers of the deaths in the town, out of 400 deaths, including those in the hospitals, only eight were from phthisis, and one of these was a stranger. The canton of Chatillon, it may be remarked, is not situated in the most marshy district of the Dombes.

MM. Rater and Candy of Lyons, who had formerly practised in the marshy plains of Forez, bear evidence of the rarity of phthisis in that locality. M. Candy, however, stated that it has become more frequent of late years since several of the marshes have been drained.

M. Jolly concurs in the statement as to the rarity of phthisis in the marshy district of Arcachon.

From all these authentic facts M. Nepple concludes that it is impossible to doubt the fact of the rarity of tubercular diseases in marshy districts, whatever explanation may be given of its cause.—*Edinburgh Medical and Surgical Journal.*

11. *On Blistering by Nettles in Measles.* By M. Trosseau. (*Journal de Medecine*, September, 1843.)—M. Trousseau recommends the free application of nettles to the surface of the skin in cases where measles or other eruptive diseases have receded and lead to the production of severe symptoms. He has seen this means succeed when every other had failed. In the case of a girl on whom the eruption of measles disappeared, producing a severe attack of bronchitis, leeches and active emetics failed to bring back the eruption or ameliorate the symptoms. Her whole body was then freely threshed with a bunch of nettles, and, within a few hours after, the eruption had fully returned, and with it every disagreeable symptom disappeared.—*Ibid.*

12. *Cochineal a Specific in Hooping-Cough.* By M. Cajetan Wachtl of Vienna. (*Schmidt's Journal*, vol. xxxix., p. 65.)—In consequence of seeing in an English paper the receipt for a very old English specific for hooping-cough, M. Wachtl was induced to try it. The receipt was—cochineal 15 grains, carbonate of potass 15 grains, sugar 1 ounce, and water 6 ounces. A tea-spoonful was given three times a day. Nine cases of hooping-cough are related, in which the medicine produced a cure in from two to eleven days, diminishing the number of fits from the first day it was taken. In Scotland, the above mixture has been used from time immemorial, but is made much stronger, viz., cochineal 10 grains, salt of tartar 20 grains, water and simple syrup of each half an ounce; a teaspoonful to be taken four times a day.—*Ibid.*

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

13. *Luxation of the Eye and Fracture of the Superior Maxillary.*—A poor woman, of advanced age and deaf, was knocked down in the streets of Paris and run over by a cabriolet, one of the wheels passing over the left cheek. She was immediately transported to the Hôtel-Dieu, where, on examination, M. Blaudin found the eye hanging on the cheek, the floor of the orbit was mashed into innumerable pieces, as was likewise the body of the superior maxillary bone; the soft parts were dreadfully lacerated and contused, except the eyelids, which were uninjured. After extracting some detached fragments of bone, the wound was dressed and the eye returned to the orbit, where it was maintained with a suitable bandage. Numerous fragments of bone have since come away, and the wound suppurates freely. The eye has retained its position, and the patient is able to see light. The transparency of the cornea remained unaltered. The surrounding soft parts are very much swollen and œdematous, and the cheek and upper lip appear to be paralysed.

14. *Cancer of the Breast in a Male Subject.*—We find the following case related in a recent number of the *Annales de Thérapeutique*:—A man, about fifty years of age, small, of a full habit, with soft flesh and rounded form, and presenting somewhat of a feminine appearance, was troubled with a carcinomatous tumor of the right breast, about the size of a large hen's egg. The tumor was hard to the touch, moveable, slightly flattened, and of an unequal surface, but not ulcerated. A portion of it, the size of a hazel-nut, was, however, soft and of a violet color, and would, in all probability, have soon ulcerated. The general appearance of the tumor was similar to that of a firm breast of a young girl; the patient complained of no pain; the adjacent ganglions were

not enlarged; no pain or numbness of the arm; general health good; had only noticed the existence of the tumor during the last six months. The father of the patient is still living, and eighty years of age, with health unimpaired. Neither his mother nor any other member of his family has ever had a cancer. Shortly after being admitted into the Hôtel-Dieu of Paris, M. Blaudin removed the tumor, which was found, on dissection, to belong to the genuine schirrous variety. The wound healed by the first intention, and the patient was soon after discharged cured.

15. *The Powers of Adhesive Inflammation.*—A man, who was engaged in sawing wood, separated, with the saw, the last phalanx of the left thumb. The bone was entirely divided, and the parts were only connected by a very small portion of skin. It was immediately applied to the stump, and secured with adhesive straps and a bandage; and, in a short time, it was found to have united perfectly. The patient was young and of a good constitution.—*Annales de Thérapeutique.*

16. *Caries of the Vertebræ,*—Doctor Lees produced recent specimens illustrative of the pathology of this disease. The first case occurred under his care in the Hospital of the South Union. The subject was a child aged five years, which was brought under his notice for the first time about six months ago, in consequence of having been observed to stand crooked or bent towards one side. On careful examination of the spine, a slight projection was discovered at the lower part of the cervical vertebræ. An issue was inserted in the neck, and the usual remedies directed. However, the child's health gradually declined, the pulse became greatly accelerated, and during the last week it died, laboring under diarrhœa and lobular pneumonia. It had always complained of pain in the front of the chest, but never of any in the back. There was paralysis of motion of the upper and lower extremities, without rigidity of the muscles. The fæces and urine were discharged involuntarily. The body was inspected after death; the bodies of the five upper dorsal vertebræ were completely carious, and the intervertebral substance destroyed; the sixth and seventh were quite black and rough; the body of the ninth was very vascular; the intervertebral substance between the seventh and eighth was quite sound. The theca of the medulla spinalis was quite thickened, and very vascular; the medulla itself was quite yellow and softened. It was remarkable that in this case no abscess had been formed, though so many vertebræ were engaged. There was no deposition in the diseased vertebræ, and no tubercles in any of the viscera.

The next specimen Dr. Lees had to present was sent to him by his colleague, Mr. Shannon. The subject was a man of strumous habit, who had died of phthisis; he was also paralysed; his lungs were found to be loaded with tubercles; the three last of the dorsal and the first of the lumbar vertebræ were diseased; there was a cheesy deposition in the substance of the bone, and also between the ligaments and bodies of the vertebræ; the spine in this situation was bent to a considerable angle, and the canal was enlarged at the angle of the curvature. This was a good specimen of the scrofulous form of the disease.—*Proceedings of Path. Soc. of Dub.*, from *Dublin Journal of Med. Science.*

17. *Inoculation of Veratrine in Neuralgiæ.*—M. Lafargue transmitted to the Academy an account of the good effects he had obtained in facial neuralgia from the inoculation of veratrine. The veratrine is mixed with a drop of water, so as to have a suitable consistence, and is then introduced exactly as in inoculation with the vaccine virus. Directly on the operation being performed, the patient experiences a pricking sensation in each puncture similar to that caused by reiterated pricks of a needle; this sensation begins to lessen after the lapse of ten minutes, and disappears in about an hour. M. Lafargue repeats the operation night and morning, making about a dozen punctures at the point where the pain is most severe. In limited paralysis, especially of sensation, the same proceeding is very advantageous.—*Gazette Med. de Paris*, from *Dub. Med. Press for* March, 1844.

OBSTETRICS AND DISEASES OF FEMALES.

18. *On the Periodical Deposition of Ova by Women and the Females of the Mammalia.* By M. Raciborski. (*L'Experience*, November and December, 1843.)—In a series of most interesting papers, M. Raciborski proves that women and the females of all the mammalia throw off, at particular periods, ova, which may be detected in the oviduct (Fallopian tubes). The period at which this takes place in animals is known by the name of the rutting season: in woman it occurs every time when she menstruates. By tracing the character of the Fallopian tubes and of the ovaries through the races of animals, he was able to show that these tubes are truly oviducts, and were similar in function to the oviducts of birds. In the course of inquiry, and as the result of numerous dissections, he distinctly proved, as Bischoff of Heidelberg had also done, that, during the period of menstruation in women, and of rutting in the mammalia, ova became developed in the ovaries, just as happens in fishes or birds, and are thrown off at that period. In uniparous females only one ovum is so developed; in those who are multiparous several ova are thrown into the Fallopian tubes or oviducts. This takes place independent of fecundation. In fact, fecundation only vivifies the ovum which is thrown off, in the same way as occurs in birds. Provided the male semen reaches the ovum before it has reached the uterus, impregnation takes place; but if there be no fecundation, as occurs in all virgins, and in animals which have not access to males, the ovum is thrown off, or laid, as he terms it, in the same way as we see the unfecundated ovum of birds or fishes laid.

The Graafian vesicles are minutely traced through all their periods of change, from the time when they appear in the interior of the ovary, until they gradually approach the surface of that organ, ready to be thrown off at the period of rutting or of menstruation. As they approach the surface in animals, each is seen to be composed of a vesicle filled with a tolerably limpid viscous fluid, of a somewhat yellow tinge. The walls of this vesicle are formed of four membranes—the peritoneum and covering proper of the ovary forming two of them, and only cover its projecting surface. The third tunic is the most important, forming the membrane proper of the Graafian vesicle. It forms a completely closed vesicle, and encloses numerous vessels. Its internal surface is free, slightly tomentose, and is in contact with a granular fluid. It adheres to the two first coats by loose cellular tissue. The fourth coat is a cellular one, which envelopes the last described membrane on all sides, excepting on its upper projecting one, where it is covered by the two first coats. These coats are all closely applied to one another, and leave no space or fluid between them. As the period of rutting or menstruation approaches, the most superficial vesicles augment considerably in volume, and lose their diaphanous appearance, on account of the increased thickness of the third or membrane proper of the vesicle. At the same time, the liquid becomes more granular than before. At the rutting or menstrual period congestion takes place, and often hemorrhage, within the interior of the vesicle. If cut at this period, the vesicles give out a bloody-colored fluid, floating in which may often be distinguished the ovum proper. In a few days after the rutting or menstruation has commenced, if the female be kept carefully from the male, the vesicle bursts and evacuates its contents. If examined a few days after this, a slight cleft aperture may be distinguished on the surface, but the edges are already re-united. The pouch of the follicles is then seen sensibly diminished in size, and often contains a few small clots of blood.

The changes which this pouch undergoes is one of the most curious of the phenomena. After the rupture of the follicle the external or fibrous coat contracts, and folds up irregularly this membranous proper tunic of the follicle. It then resembles a bladder pushed into a cavity much less than itself. The sides are pressed irregularly one against the other; and as they at length adhere by their oppressed surfaces, a fleshy mass is found occupying the space of the former Graafian vesicle. This mass presents then the color and consistence of the liver, and when incised, presents a ragged aspect, produced by the change just described. In some cases, the internal cavity is not quite obliterated, on account of a few of the clots still remaining. These fleshy masses may be easily drawn out of their situation by a pair of forceps, exactly in the same way as the internal membrane of the vesicle might have been before the menstrual or rutting period took place.

In proportion to the time which has elapsed since the rutting period, and in proportion as new Graafian vesicles approach the surface of the ovary, the fleshy masses above described diminish in volume, and assume a fawn color, or that of a decayed leaf. The ragged aspect on a section is not so distinct; they become deeper and deeper placed in the ovary, and are at last only met with as small fawn-colored tubercles. These diminish more and more, till first only a fawn-colored speck is seen, and then they disappear.

In the course of the long series of papers which M. Racihorski has published on this subject, are cited very numerous cases, in which all the facts mentioned were observed on the bodies of women who died during or immediately after or before menstruation, and in the females of animals in the rutting period. They fully bear out M. Raciborski in the view he has adopted, viz., that in uniparous animals one ovum, and in multiparous animals several ova, are developed every time the animal comes into heat, and are thrown off independently altogether of the animal having access to the male; that the same occurs in women every time they menstruate; that Graafian vesicles, therefore, are to be found in the ovary whenever the animal is at the rutting season, or when women are menstruating, and that *corpora lutea* follow the bursting of the vesicles in every case. Neither the presence of corpora lutea, nor of Graafian vesicles in the ovaries, is, therefore, any proof of the loss of virginity, or of a female having had access to the male. Nothing but the presence of a fecundated ovum in the uterus can prove this.—*Edinburgh Medical and Surgical Journal.*

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19. *Cæsarian Operation, in which Mother and Child were saved.* By Dr. Ziehl of Nuremberg.—The woman was thirty-three years of age, four feet high, and deformed from rickets. She fell in labor at the seventh month. On examination, a curvature of the spine was found to exist, the right shoulder was elevated, the pelvis inclined forwards and to the right, the right crest of the ilium was higher than the left, the thighs were curved, and the belly was very prominent.

The finger, introduced into the moist but narrow vagina, easily reached the promontory of the sacrum; the os uteri was considerably dilated; the antero-posterior diameter was but 1½ inch; the pelvis was narrower on the right than on the left side, and the transverse diameter was diminished one inch; the pelvimeter of Baudelocque indicated from the pubes to the spinous process of the last lumbar vertebra, a very little more than four inches. The contractions of the womb were strong; the head was not yet engaged in the pelvis; the pulsations of the heart could be distinctly heard. The child being alive, the perforation of the head was contra-indicated, and even had it been dead. embryotomy would have been more dangerous than the Cæsarian operation, which appeared the only course practicable. This was accordingly performed, the incision being made in the linea alba from the umbilicus to the pubes. A full-grown living male child was extracted. Immediately after, the placenta, which adhered to the fundus, was detached without difficulty. The loss of blood was trifling, no vessel required to be tied, and a protruding portion of membrane was easily reduced. The wound was brought together by five sutures, and the body surrounded with the starch bandage. The woman recovered without any accident, except a miliary eruption and suppuration of the wound, with sphacelation of a little of the cellular tissue. She was able to be out in less than two months after the operation, and the child, though not fed at the breast, is thriving well. —*Gazette Médicole de Paris*, Jan. 1844, from *the Lon. and Edin. Monthly Jour. of Med. Science*, March, 1844.

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20. *Obstetrical Properties of Powder of Colchicum.*—M. Metta has published the case of a woman in whom the powder of colchicum was employed with success as a substitute for the ergot of rye. She had an abortion at the third month, but

the placenta not being expelled, and the pains having ceased, ten grains of powdered root of colchicum were given in two doses. Half-an-hour having elapsed without any sensible effect, the same dose was repeated. Soon the orifice of the womb dilated, uterine contractions followed, and the placenta was removed by the hand in a state of decomposition.—*Journ. de Méd. et de Chirurgie*, Jan. 1844, from *Ibid.*

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

21. *Mrs. Gilmour's Trial for the alleged Poisoning of her Husband.*—Our readers will recollect that this case excited a great deal of attention in this city, some months ago, from the circumstance of its being the first instance of a demand of the kind that has occurred under the Ashburton treaty; and, for the same reason, independent of the grave nature of the charge itself, the greatest anxiety was manifested in Edinburgh. The question of her delivery to the British Government was here made to rest upon the fact of her being, or not being, insane; but at the trial of the prisoner before the High Court of Justiciary, at Edinburgh, on the 12th and 13th of January, no reference was made to this point.

In the February Number of the "London and Edinburgh Monthly Journal of Medical Science," there is contained a detailed account of the trial, comprising twenty-five closely-printed pages.

On the part of the Crown, it was clearly established that the husband had died of poison, and that this poison was arsenic. Among the witnesses who proved this beyond all doubt, was the celebrated Dr. Christison; and these facts were admitted by the prisoner's counsel. It was further proved that she had married against her will, and that, shortly before her husband's death, which occurred about five weeks after marriage, she had purchased arsenic twice, if not thrice, for the avowed purpose of killing rats. The purchase of the arsenic, she admitted; but she declared that it was for the purpose of killing herself. As the evidence was wholly circumstantial, the prisoner was entitled to the benefit of the doubt; and the jury, after about an hour's deliberation, returned the following verdict:

"The jury, after careful and mature deliberation of the evidence brought before them in this case, are unanimously of opinion that John Gilmour died from the effects of arsenic; but they find that the charge is *not proven* against the pannel at the bar as libelled."

The prisoner was then dismissed from the bar. It seems that she had been forced, against her will, to go to Liverpool, and thence to America, by her father, in consequence of the reports that she had poisoned her husband.

MISCELLANEA.

22. *Honors to Medical Men.*—The King of the French has, upon the recommendation of Marshal Soult, Minister of War, awarded gold medals to Doctors Renand, Morean, Magail, and Vinot, for their zeal in promoting vaccination in Algeria.—*Gazette Médicale de Paris.*

23. *Necrology.*—Dr. Eder, one of the most distinguished of the Austrian Surgeons, who had been invited by the Sublime Porte to superintend the organization of the military Hospitals at Constantinople, died in that city on the first of January last. Also, on the 9th of March, in London, Sir Henry Halford, who was the physician to four successive monarchs. Our notice of this distinguished individual has been crowded out.

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American Medical Intelligence.

The Malignant Fever at Rondout.—In March last we were subpœnaed to appear before the Circuit Court then sitting at Kingston, Ulster county, to give evidence touching the Malignant Fever, which prevailed at Rondout during the months of August and September last. This was a libel suit, which arose from circumstances connected with the alleged introduction of yellow fever, by the schooner Vanda. The trial was, however, postponed; and thus was the medical world deprived of the sublime spectacle of having the question of the importation and contagiousness of yellow fever, and especially as regards its introduction by the Vanda, discussed before an Esopus jury; and what is still more to be deplored, is, that, upon a question which has puzzled the greatest medical philosophers of the last age or two, we were thus deprived of the decision of a jury of the sturdy yeomanry of Ulster county!

We thus took occasion to visit Rondout, and, strange to say, we found that the enemy, the supposed yellow fever, had not yet departed, notwithstanding the mercury, in the meantime, had sunk as low as 20° below zero! We learned from Dr. Stringham, of Rondout, from Dr. Elting, who resides two miles from Rondout, and from Dr. Holt, whose residence is six miles from the same place, that the disease had continued in a more mild form, during the fall and the winter up to the time of our visit. But let us here take a rapid glance at its previous history.

In the Number of our Journal for July last, we gave an account of the then prevailing Influenza, and referred particularly to its close connection, as is shown by Noah Webster, LL.D., in his "History of Epidemics," with malignant diseases; and this is a fact which is confirmed by multiplied experience. Thus in the instance of this alleged yellow fever, we showed (vide Journal for November last) by the evidence under oath of the physicians named above, that, with the advent of influenza, all diseases, and especially those of the prevailing epidemic, gradually assumed the *bilious remittent type*. Even for a month or two before the arrival of the Vanda, cases occurred, characterized by the peculiar symptoms of *yellow suffusion of the skin and eye, redness of the conjunctiva, preternatural slowness of the pulse, the vomiting of a dark greenish fluid with flocculi floating in it, and by a great prostration of the vital powers*. This form of disease, increasing in virulence with the augmenting temperature of the season, finally reached its acmé in August and September, the unfortunate Vanda having chanced to arrive on the 14th of August. But as the disease was not arrested by frost, and not even by a winter of a very unusually low temperature, while it is very well known that yellow fever disappears with the first indication of frost, the most irrefragable confirmatory evidence of our views, taken of the disease when it raged in its most aggravated form at Rondout last summer, is thus afforded. During the autumn and winter, and even up to the last of April, this form of disease, though rendered much more mild by the season, has occurred in numerous instances; and with a general character so marked that there was no difficulty whatever in recognizing its distinguishing features. Drs. Stringham, Elting, and Holt, related to us some marked cases; and we saw two of Dr. S.'s patients, who were then convalescent. In these cases, only one or two of the characteristic symptoms more generally appeared.

Dr. Stringham having visited this city quite recently, April 18th, he informs us that he has had three more cases since our visit to Rondout in March. At our request, he has given us the general features manifested by several cases; and of these symptoms it will suffice to present merely the prominent points relevant to the subject.

Early in March, Mrs. Derenbacker was attacked one evening with chills, and pains in the head, back, extremities, and abdomen, so severe that she screamed. At the same time, there was great prostration of the vital powers, syncope having occurred several times before Dr. S.'s arrival. Soon after, as reaction was taking place, she threw up a dark colored fluid, which formed a sediment; and this continued during the night, until a calomel cathartic began to operate. Her eyes were suffused and injected, and slightly yellow, while the skin generally was much more so. In the morning, the pain in the head was still slight, while that of the bowels had wholly disappeared. During the day, the fever was moderate, but it increased in the night. On the following day, it ceased with a profuse perspiration. The pulse, which was slow at the beginning, gradually arose. This patient we saw when convalescent.

In February, Mr. Barber was attacked; but his fever at no time ran high, nor was he confined continually to his bed. He vomited a dark bilious fluid. The conjunctiva was injected with blood, and the skin and eye were remarkably yellow. There was no depression of pulse. This patient we also saw when convalescent. In each of these patients, the peculiar marks of the disease were very apparent in the *tout ensemble* of the symptoms.

Early in April, a daughter of G. F. Von Beck, *æt.* 12, had a similar attack. It commenced with the usual premonitory symptoms of fever, with inflamed throat, violent pain in head and epigastrium, and tenderness in the latter on pressure, with a continual sensation of a heavy weight in the same organ. She vomited a colorless ropy fluid, and on the first evening, the pulse was full and hard. Bled her and gave a cathartic of calomel. Next day, the pain in head and stomach was much alleviated, as also the inflammation of the throat. This case was characterized by the peculiar slowness of the pulse, which, on the third evening, sunk, as the fever left, to a very low point, ranging from 41 to 46. In this case, there was also slight inflammation of the conjunctiva; but the skin afforded no precise indication, as it was naturally very yellow.

In the latter end of March, Eliza Parsons, a domestic in the family of James Vankenren, was attacked. Had the usual premonitory symptoms of fever; the tongue was covered with a very black fur extending near the edges, which were scarlet; and the pulse was slow and full. Prescribed calomel and salts and the usual febrifuges. On the evening of the fourth or fifth day, there was great prostration of the vital powers; a violent burning pain and a sensation of great weight were experienced in the epigastrium; and the dejections were very black. Prescribed v. s. and a blister to the epigastrium. Next day she was better; but in the evening, she vomited a dark green bilious matter, undistinguishable from what was vomited by the patients supposed to have their disease from the Vanda. In its general symptoms, this case was very like to the fatal one of Jesup (reported in vol. i., p. 319), which commenced with a typhus form of disease.

On the 20th of March, —— Getty, who was feeble from having had a recent attack of mumps, was attacked with the usual premonitory symptoms of fever, attended with a troublesome cough. Dr. S. saw him first on the third or fourth day, when he had a bilious remittent fever complicated perhaps with slight inflammation of the lungs. Prescribed v. s. and cathartic. Next day, the patient was better; but on the day following, all the symptoms were aggravated, with difficulty of breathing and pain in the chest, epigastrium, and lower in the abdomen. Prescribed again v. s. and a cathartic. He now vomited perhaps a pint of black ropy fluid, and the dejections were also black, while the tongue had a black covering with scarlet edges. But slight relief followed the last prescription. On the fourth day, hæmoptysis occurred twice during the exacerbation of the fever. Bled him a third time with considerable immediate relief; but it proved but temporary, as on the next day there occurred considerable fever, with hæmoptysis and pain in the chest and bowels. Bled him five times during the course of the disease, and the hemorrhage finally ceased under the use of the acetate of lead, but a troublesome cough remained. The fever still continued its course, two exacerbations and remissions daily. On the third of April, there was observable a decidedly marked lemon color of the eyes, the temples, the face, and the neck. Soon after this yellow appearance, he began to sink, gasping for breath. Brandy was prescribed. These symptoms continued for several days, with a clammy skin and a pulse below the natural standard. He had the ghastly expression of countenance peculiar to the endemic, which was ushered in last June by the influenza. On the 16th of April, when Dr. S. left home for this city, the patient was convalescent, and the lemon tint was gradually disappearing.

We have thus traced the progress of this endemic from last June up to this period; and reasoning from the past, we are warranted in the prediction, unless a sudden change occurs in the elements constituting this endemic, that the approaching warm season will be marked by cases resembling in severity those that occurred last August and September.

During the last year, an epidemic fever has prevailed in Scotland, which exhibits, in many respects, a striking coincidence with the malignant disease at Rondout. We have accounts of the epidemic at Edinburgh, Glasgow, Dundee, and other towns, extracts of which will be found on a preceding page (410). We are told that it was variously designated: "at first, it was called *influenza;* afterwards, *yellow fever;* likewise, *spotted fever;* and, lastly, *common typhus.*" How like the history of the Rondout fever is this! A great number of the cases were characterized by *yellow skin, black vomit, and hemorrhage;* "and further, that the *post-mortem* appearances observed in Dundee correspond most remarkably with those observed by the French Commission in Gibraltar, in 1828; and, that at the dissections which have been made in the Infirmary, we have been particularly struck with finding, in every case, the same diseased state of the liver, which Louis considers as the anatomical character of yellow fever."

The following language is used by the Provincial Medical Journal for January 27th, 1844:

"We have before us two accounts of epidemic fevers, on opposite sides of the Atlantic, which prevailed about the same time, and presented nearly the same phenomena. Both are drawn up by gentlemen (Dr. Forry and Dr. Cormack) who personally investigated the disease in question, and both of whom are well qualified for the task."

Dr. Post's new Instrument for Lithotomy.—In our last number, this instrument was described, accompanied with an engraving; but since then, Dr. P. has had an opportunity of testing the operation on the living subject; and the result, as appears by the following details of the case, would seem to have been highly satisfactory:

"Charles Denny, a boy of good constitution, three years of age, was brought to me in the month of November, 1843, having had symptoms of irritation of the bladder during the period of five months preceding. I sounded him, and detected the presence of a small calculus in the bladder.

"On the 20th of March, 1844, I performed the operation according to the method above described, making an incision into the neck of the bladder about three-fourths of an inch in breadth. On removing the prostatotome, I introduced a forceps and extracted the stone, which was of a small size, weighing, when dried, forty-three grains. The stone was subsequently analyzed by Professor Draper of the New York University, and foond to consist of the Urate of Ammonia. The patient bore the operation remarkably well.

"From the time of the operation there was no incontinence of urine, but the patient passed it each time by a voluntary effort through the wound. At the end of twenty-four hours, a part of the urine began to pass through the natural channel. At the end of forty-eight hours, the whole quantity came through the natural passage, and since that time, no portion of it has flowed throogh the wound. After the lapse of forty-eight hours from the time of the operation, I found the patient seated on a low chair, amusing himself with his toys. On the sixth day he walked about the room and played most of the day, apparently without fatigue: and since that time, his sports have not been interrupted.

"April 3d. The patient continues to gain strength, and is now in the enjoyment of better health than before the operation. The wound in the perineum is rapidly contracting, and for several days past has been so free from soreness, that he has been able to sit astride of a bench, playing horse.

"April 13th. The wound is nearly cicatrized, and the patient is in the enjoyment of full health."

A Correction.—We are requested by Dr. A. S. Wotherspoon to state that, in the essay published in the last number of the Journal, on "Some Cases of a rare Form of Exanthem," he omitted to mention that the first two of the cases recorded as occurring in the New York City Hospital, were under the care of Dr. Francis U. Johnson, and the third under that of Dr. John A. Swett, both attending physicians of the institution. The diagnosis was small-pox, and this opinion was adhered to, though strongly opposed by many who were inclined to look upon them as cases of purpura or scarlatina.

Value of a Poultice previous to Leeching by J. H. Ross, of New York.—Every practitioner who is familiar with the operation of leeching, is aware that it is a tedious process at best; that it requires much time, and frequently more strength and patience than the patient can command. Any preliminary step, therefore, that will obviate the necessity of subjecting the patient to the great length of time which is frequently unavoidably occupied in making the leech bite, and will facilitate their filling and the subsequent bleeding, must be considered a matter of no small importance. These indications are fulfilled by the application of a poultice an hour previous to leeching. The value of the poultice is at least twofold. The leecher and patient are both materially benefited, as it saves much time. It first makes the part very acceptable to the leech; for, ten chances to one if the patient has not applied everything but the right one to the part before sending for a physician; to all which, and almost everything else, except blood and clean water, the leech has a decided antipathy. When the part has been well poulticed, these substances are removed, together with the secretions of the skin, and other offensive accumulations. But this is not all; for the skin not only becomes clean, but *soft* and *wet;* and this condition is peculiarly favorable to the leech, which, in its native abode, *never comes in contact with a dry substance.* Thus we see that many will bite in the water, that will not bite out of it. A poultice or fomentation seems to work admirably in preparing the part for their delicate organs of touch and taste, as they fasten upon such a part without the least delay, unless the poultice has been strongly medicated. Authors mention many applications; but, in my experience, nothing is equal to a poultice for making the leech bite. Besides this, the leech fills in much less time, and the subsequent bleeding is greatly facilitated. The leecher or physician may also be greatly deceived in certain cases without this precaution. I have often had cases where there was so little circulation in the part that it seemed as if the leeches could never fill; and after dropping off, the blood scarcely stained at all; and yet, by the influence of a poultice, I have seen the bleeding become so profuse that it could hardly be stopped. This is especially apt to occur on the abdomen, than which no other part is more benefited by such an application. When the bleeding is thus modified, it may be carried to a dangerous extent, while no one suspects it, especially in young subjects. Again, the bleeding may be entirely arrested before the poultice removes the rigidity of the part, unloads the congested vessels, or gives them a chance to exercise their proper functions by inviting the circulation to the surface. Now, while the circulation is thus obstructed, it is impossible to say what the subsequent bleeding will be after relaxation occurs; and, as it is common for all to apply a poultice or fomentation *after* leeching, much will also depend upon the manner in which it is done. Many apply a thick paste, made of bread and milk, directly to the skin, which has a tendency to act as a compress. Indian meal makes a good poultice for this purpose, because it is prone to become dry; and for this reason, it makes the poorest poultice for anything else. It is better to envelope even this in a cloth (and flannel is the best), as it is a poor conductor and good absorbent, and keeps up a slight friction. Much less poulticing will generally be required after leeching, when the part has previously been fomented, as it is in the best possible condition for bleeding at once. It is admitted that there may be cases, though rare, where warm applications are contra-indicated; also where the application could not be conveniently made. It is true there are also many cases where the bleeding will be sufficient without any application before or after leeching. But the value of the poultice, independent of leeching, is great, but I believe too little known. It certainly depletes the part, moderates excitement, allays irritation, removes congestion, diminishes inflammation, and checks pain. Now, as there are cases not unfrequently where there is no time for delay, and where an immediate application is almost the only hope of successful treatment, and as so simple a preparatory measure as the application of a poultice will certainly save time, probably save pain, and possibly save life, I would respectfully suggest to the profession the propriety of testing its value.

Professor Gouraud's System of Mnemotechny, or of Artificial Memory.—Having attended this course of lectures *gratis*, by virtue of our editorial function, it is due both to the Professor and our readers, to state our impressions. Having thus become familiar with the principles and applications of the system, we are enabled to speak of its merits; and we here introduce the subject as pertaining to the laws of physiology. It is not our intention, however, to *explain* the system, inasmuch as we should thus incur the penalties of an infringement of the law of copyright.

As natural memory depends upon some *association of ideas*—a mode universally pursued, however arbitrary and however unconscious to the individual—Prof. G. has availed himself of this natural tendency of the human mind; and he has thus built up *a uniform system of association*, which, free from arbitrariness, is simple and subjected to undeviating philosophical rules. Such attempts have been often heretofore made, but never with much success; and it is to that of Feinagle, a German, that Prof. Gouraud acknowledges his indebtedness for the fundamental hint which gave rise to his system. The whole credit of its development, however, fairly belongs to Prof. Gouraud. This artificial assistance to the powers of memory, is based upon two principles: the one is, that as there are *ten* figures, from 0 to 9, whose combination represents all possible *numbers*, so there are but *ten* articulations, as distinguished from sounds and vowels, in all known languages, both living and dead, whose combination and slight modification, form all possible *words*. Now as any number can be thus represented by some word or words (not the arbitrary and unmeaning collection of letters used by other Mnemotechnists), it follows, as is done by the second principle, that the event may readily be connected by some powerful association, with the word or words, which signify the numbers, or, indeed, any other object of memory. Thus to recollect when the thermometer was invented, it is necessary to associate with it the word *Canada*, which is equivalent to 1721. This association is facilitated by remembering the following: "*Thermometers* have often their mercury frozen by the bleak winters of *Canada*."

The patience and ingenuity, not to speak of the philosophical turn of mind, required to develope this system from its germ, to elaborate it in its minutest details, must excite, in those who appreciate it fully, the greatost wonder. We have witnessed the application of this method to figures, as, for instance, chronology, to the mathematical problem of "the ratio of the diameter to the circumference of the circle with 154 decimals," to latitudes and longitudes, the elevations of mountains, specific gravities, statistics, extended nomenclatures, and lastly, as "the golden key to the kingdom of the universe," in which the elements of all the planets are comprised; and it was surprising to see with what facility an almost endless series of figures could be put down upon the black board, with, in truth, unerring certainty. The same system, we are told by the Professor, has been adapted by him to the acquisition of languages, poetry and prose, and to perhaps all the natural sciences. A person may thus readily treasure up in the memory by this artificial system, what could not possibly be acquired by the natural memory.

At the bringing together of his two classes at the conclusion of his course of lectures, in the Tabernacle, the triumph of the Professor was complete; for when resolutions tho most favorable to his system were proposed, the unanimous voice of more than 2,000 pupils arose. Yet after all, candor compels us to say, that we are not conscious of having derived from the system, so far as taught, any very marked *practical* advantage.

Substantial Testimony of merit to Dr. William Darling, from his Class.—At a meeting of the members of Dr. D.'s Anatomical Class, held Feb. 21, 1844, it was unanimously resolved, " That we have the highest opinion of Dr. William Darling, as a teacher of Anatomy, and of his character both as a gentleman and a scholar; and, in consideration of his kindness and attention to us, during the present course, we will present him with some testimonial of our gratitude and respect." The donative consisted of a splendid case of surgical instruments.

Case of Extirpation of the Parotid Gland as early as 1805.—It appears from the American Journal of the Medical Sciences, for April, 1844, that this operation was performed by Dr. John McClellan, of Green Castle, Franklin county, Pa., on a female, aged fifty years, as long ago as the 14th of May, 1805. As we have a personal knowledge of Dr. McClellan, who, notwithstanding 83 years of age, still performs a critical operation occasionally, we can vouch for the trustworthiness of the account.

New Work on the Laws of Population and Mortality.—The Editor of this Journal has now in preparation a volume on the general law of population and mortality, with special reference to the United States, the latter being based upon the six censuses and other data. Accompanying it will be a condensed view of general hygiène or state-medicine, in its relations to vital statistics, as regards the promotion of general longevity and happiness. If such persons among our readers who are in possession of data of this kind, would transmit them immediately to our address, the favor conferred would be acknowledged in its appropriate place.

Weber's Anatomical Atlas of the Human Body in Natural Size.—We heartily congratulate the profession upon the re-production of this great work in our own country. The volume consisted originally of 84 plates; but this, the last edition, has six additional ones, comprising all the latest discoveries in anatomy, that is, in osteology, syndesmology, myology, angeiology, the nerves, the organ of hearing, and the veins of the head, neck, and brain. It also comprehends all the latest microscopic discoveries in anatomy. The author is a professor at the Royal Prussian University, Frederick William, at Bonn. To say aught in favor of a work which has attained the high character of this one, is wholly unnecessary; but as regards the lithographic execution of the American edition, one word is requisite. To say that it is the work of Endicott, upon whom will rest the whole pecuniary responsibility of the enterprise, is a sufficient guarantee for its completion. We can bear our own testimony to the fact that, as regards the 84 original plates, the American edition will be far superior in artistic execution to the German; but the six German supplementary plates are so well executed, that to rival them in beauty will be sufficient credit.

The work will be issued in numbers, the first of which will very soon be presented to the profession.

The Bulletin of Medical Science.—We can assure our friend of the Bulletin that notwithstanding his rather undignified remarks in his last number, we have never had any cause to find fault with his editorial justness. On the contrary, every number of our Journal shows the uniform respect which we have always entertained for whatever proceeds from his pen. In giving place to the notice of Dr. Condie's book, it never for a moment occurred to us, that it could possibly contain a charge so sweeping as to include the impartial editor of the Bulletin. Indeed, it shall hereafter be our earnest endeavor to keep our pages clear from everything, at which any of our brother-editors can possibly take umbrage. If there has been any *boasting*, it was commenced in the Philadelphia Examiner of the 27th January; and this demanded a reply in self-defence. We have now resolved to have our *say*, which will be found in the address "To our Patrons," contained in this number.

The Editor is mistaken in supposing that the Medical Repository was sustained by Dr. Hosack. As it was hostile to his views of yellow fever, Dr. H. conducted a Journal, in opposition, for four years.

The Sydenham Library.—We would urge, with the greatest earnestness, upon our readers the importance of the following advertisement. Such an opportunity of obtaining rare and valuable medical works, and at the most moderate prices too, has surely never before been presented. Besides, the opportunity of subscribing once lost, it can never be regained as regards the books already published.

The undersigned would again call the attention of the profession to the SYDENHAM LIBRARY, some notice of which was given in the last number of this Journal. As the objects of the Association were there stated in full, it is unnecessary to repeat them here. I wish, however, to request all who intend to subscribe, to send in their names with their subscriptions ($5 post-paid) to H. G. Langley, Bookseller, 8 Astor House, or to the subscriber, 418 Hudson street, without delay, as no more copies will be ordered, than are subscribed and paid for. It is expressly understood that none can be obtained by orders through booksellers, and that no more copies will be printed than sufficient to supply subscribers. The following works, which are in course of publication in London, will be ordered for subscribers, by the steam packet of June or July: Hasse's "*System of Pathological Anatomy*," translated from the German, and edited by Drs. Swaine and Alexander Ure, Esq. This is considered the most complete work on the subject which has yet appeared. 2. Hecker's "*Histories of the Epidemics of the Middle Ages*," with a prefatory notice, and an appendix by the author; translated and edited by B. G. Babington, M.D., F.R.S. 3. *A Complete Edition of Sydenham's Works in Latin*, edited by Dr. Greenhill, of London. The above works are all promised for $5, and perhaps one or more of the following, depending upon the number of subscribers: 1. *The Medical Works of Paulus Æginetæ*, translated and edited by Francis Adams, Esq., with a commentary, comprising a complete view of the knowledge possessed by the Greeks, Romans, and Arabians, on all subjects connected with medicine and surgery. 2. *The Complete Works of* HARVEY, in English. 3. The Complete Works of SYDENHAM, in English. 4. The Complete Works of HEWSON, in English. 5. A Translation from the German of SCHWANN's Work, on the "*Intimate Structure of Animals and Vegetables.*"

CHARLES A. LEE, Honorary Local Secretary.

New York, April 20th, 1844.

"*The Epidemics of the Middle Ages*," translated by Dr. Babington, is just published in London. The British and Foreign Medical Review, for April, in noticing this work, remarks:—

"We observe by the list appended to the volume, that the number of members of the Sydendam Society, at the time of going to press, was within a few of 1,600! and we have reason to believe that new names are coming in daily. It no longer then admits of doubt that this Society will eventually comprehend the majority of the members of our profession in the three kingdoms. Its present triumphant success need excite little surprise when this single fact is considered, that the subscribers will annually receive back, in the shape of valuable books, *double* the amount of their contributions.

"The present beautiful volume is one of three (possibly of four) to be presented to the subscribers of 1843. These volumes, if published (by booksellers), would probably sell for fourteen shillings (sterling) each. Two other books of the same size, or larger, viz., 'The *Latin* SYDENHAM' (the *English* will be delivered next year), and the translation of the new edition of '*Louis on Phthisis*,' are nearly through the press, and will soon be ready for the members.

"All things considered, we regard the foundation of the SYDENHAM SOCIETY as one of the most important events that has taken place in the history of the profession in this country during the present century. The fact of so very large a number of practitioners being enrolled members of it within the first year, and in every part of the kingdom, gives reasonable grounds for hoping that the taste for good, sound medical literature is again reviving, and will, eventually, most beneficially qualify, if it do not entirely supersede, that depraved appetite for mere medical gossip, and the frothy inanities of extemporaneous journalism, which has obtained such a head in this country, during the last twenty years."

Graduates of the New York Schools.—The two following alphabetical lists give the names of the candidates upon whom the degree of M.D. was conferred, at the last annual commencement of each:

"*College of Physicians and Surgeons.*—James H. Allen, A.M.; James Altham; John Van Dyk Berier, A.B.; Wm. Blackwood; Robert F. Brewer; David T. Brown; John H. Brush; John J. Crane, A.M.; Thos. W. Foster; Charles L. Frost; John S. Gardner, A.M.; Jeremiah C. Garland; Charles B. Gill; Philo P. Greenly; Alexander Greig; John C. Hubbard; Anthony D. Morford; Francis J. Morse; Patrick A. M'Barron; Samuel J. Osborn; Alexander Perry; Joel R. Ross; Thomas Ryerson, A.M.; Der M. Senakerim, A.M; John Snowden; De Witt Tappan; Valentine Vermilyea; Cyrus F. Ward, A.M.; Claudius B. Webster, A.B.; Ferdinand L. Wilsey; Joseph Winterbotham; John Young. The degree of Doctor of Medicine is also conferred upon the following gentlemen, absent by permission:—Samuel Healy; Samuel S. Migener.

"*University of New York.*—James N. Alford, S. C.; J. F. Arrowsmith, N. J.; Christopher V. Barnett, N. Y.; Edw. Bayard, Del.; Wm. H. Beatty, N. C.; Wm. P. Bell, Pa.; Elbert Bland, S. C.; Jas. H. Bogardus, N. Y.; Chas. Bonner, Ala.; Thos. H. Brown, N. C.; Thos. E. Burtsell, N. Y.; —— Bruce; Jas. A. Carmichael, Va.; Jas. D. Caulfield, Va.; Seth P. Chapin, Conn.; Elihu D. Cherry, S. C.; Edw. L. Chichester, N. Y.; Francis V. Clark, Pa.; A. S. Combs, N. J.; Alex. J. Dallas, N. Y.; Nathan Deane, Vt.; J. J. Delamater, O.; Milton K. Devane, N. C.; H. P. Dillenback, N. Y.; S. Z. Earle, N. B.; J. Edwards, Ind.; C. W. Ensign, Conn.; R. W. Evans, U. C.; J. W. Fell, N. J.; A. F. Follin, Ala.; James B. Gilbert, N. J.; John D. Goneke, Ga.; Wm. W. Green, N. C.; Geo. C. Gray, Tenn.; H. N. Guernsey, Vt.; Jas. Hamer, Pa.; N. Hanford, N. Y.; J. R. Hawes, N. C.; Thomas H. Hawks, N. C.; Samuel W. Hazlet, N. Y.; A. S. Heath, N. Y.; H. Hubbard, R. I.; E. W. Hunter, Ga.; Edward Jenkins, Md.; W. B. Klipstein, Va.; Jesse Leapheart, S. C.; N. C. Levings, N. Y.; R. Manley, N. J.; John M. Mars, S. C.; R. B. M'Cay, Pa.; J. W. Meriwether, Ala.; Thomas Milner, Ga.; Jacob Moore, Conn.; A. C. Morrogh, N. Y.; John F. Morse, Pa.; J. R. Mowbray, N. Y.; A. F. Newkirk, N. C.; J. W. Osgood, Mass.; A. Otterson, N. J.; David G. Outlaw, Tenn.; S. Allen Paddock, N. Y.; W. C. Parker, N. Y.; John E. Peck, Fa.; W. A. Player, S. C.; Henry C. Preston, Conn. ; G. Prince, N. Y. ; Samuel S. Purple, N. Y. ; Benjamin F. Rawls, S. C. ; B. Rives, Va. ; J. G. Rives, N. C. ; Ira Russell, Mass. ; N. B. Scott, Md. ; R. B. Scott, Va. ; W. R. Sevier, Tenn. ; C. W. Stoothoff, L. I. ; W. W. Strew, N. Y. ; E. Thayer, Mass. ; B. W. Thompson, N. Y. ; Matt. Thompson, O. ; Edward Townes, Va. ; James D. Trask, Mass. ; A. J. Trippe, Ga.; R. A. Tucker, S. C. ; F. Tuthill, L. I. ; J. O. Van Hovenbergh, Ill. ; C. D. Varley, N. Y.; A. C. Walker, O. ; J. A. Walker, S. C. ; J. H. Webb, Ala. ; L. B. Wever, S. C. ; H. L. Whipple, Ala. ; F. Woodruff, Conn. ; D. H. Bruce, Ala.

Transactions of the New York State Medical Society.—We are indebted to T. Romeyn Beck, M.D., for these papers in advance of their publication; but having lent them to a friend, who has unfortunately mislaid them, we are unable to notice them in this number of the Journal. The address of the President on Insanity, however, escaped, as is seen on a preceding page, this misfortune.

Castleton Medical School.—This institution seems to be in a prosperous condition. The number of students, about the middle of April, was 115, with the prospect of an augmentation.

Pennsylvania College.—The two vacant chairs in this Institution have been filled by the appointment of Dr. David Gilbert to that of Surgery, and of Dr. W. L. Atlee to that of Chemistry. Both have accepted.

Naval Bureau of Medicine and Surgery.—Surgeon Thomas Harris, of the United States Navy, stationed at Philadelphia, has been appointed to this bureau, in the place of Surgeon Barton, who has been removed.

Necrology.—Died at Old Point Comfort, Virginia, Edward Macomb, M.D., Surgeon, United States Army.

Electro-Magnetism.—We would ask attention to Dr. Ross's advertisement on the cover of the Journal. To physicians who have not provided themselves with an electro-magnetic apparatus, it is surely not unimportant to know where they may, with confidence, send their patients requiring the application of this therapeutic agent.

In the Press of the Harpers.—Medicines, their Uses and Mode of Administration; including a Complete Conspectus of the three British Pharmacopœias, an account of all the new Remedies, and an Appendix of Formulæ. By J. Moore Neligan, M.D. With Notes and Additions, including Improvements in the Science, and adapting it to the Pharmacopœia of the United States. By D. M. Reese, M.D. &c.

Meteorological Observations.—The Army Meteorological Register, which is continued in this Number, has now all the measures reduced to the English scale; as also the table of certain hourly observations on the barometer, taken simultaneously on the 21st of March, June, September, and December, at the suggestion of Sir John Herschel, at various points of the earth's surface.

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HOURLY METEOROLOGICAL REGISTER.

STATION, *Fort Columbus, New York Harbor.* *Lat.* 40° 42′ *N.* *Long.* 74° 9′ *W.* *Alt. of Bar. above low water about* 25 *ft.*

DATE.	BAROMETER.	ATTACH'D THER.	DETACH'D THER.	CLEAR. OF SKY.	WIND.	CLOUDS.	WET BULB.
March 21, 1844.	Fahrenheit.	Fahrenheit.	Fahrenheit.				Fahrenheit.
6 A. M.	29·744	43·7°	34°	6	NE 0	NE 2	28°
7 "	29·693	45·5	33	2	NE 2	NE 1	30
8 "	29·732	45·5	31	4	NE 4	NE 3	29
9 "	29·721	43·7	31	0	N 4	0	28
10 "	29·713	43·7	33	2	NW 4	NW 1	29
11 "	29·693	42·8	33	4	NW 5	NW 2	30
12 M.	29·693	42·8	33	2	N 4	N 1	30
1 P. M.	29·693	45·5	34	2	NE 3	NE 1	31
2 "	29·693	45·5	34	2	NE 2	NE 2	31
3 "	29·693	46·4	35	3	NE 2	NE 3	32
4 "	29·685	46·4	36	5	NE 3	NE 2	33
5 "	29·685	44·6	34	0	NE 2	NE 2	30
6 "	29·685	44·6	34	0	NE 2	NE 2	31
7 "	29·705	43·7	34	0	NE 2	0	31
8 "	29.732	42·8	33	0	NE 4	0	30
9 "	29.732	42·8	32	0	NE 5	0	29
10 "	29.732	42·8	32	0	NE 4	0	29
11 "	29.713	42·8	31	0	NE 5	0	28
12 "	29·705	44·6	30	0	NW 4	0	28
1 A. M.	29·705	44·6	30	0	NW 5	0	28
2 "	29·666	46·4	29	0	NE 5	0	26
3 "	29·650	46·4	29	0	NE 5	0	26
4 "	29·685	46·4	29	0	NE 2	0	26
5 "	29·705	46·4	30	0	N 1	0	27
6 "	29·772	42·8	30	8	N 0	N 2	27
MEAN . . .	29·705	44·53	32·20	1·60			29.08

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude 40° 42′ North. Longitude 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1841.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			HYGROMETER, at 3 P.M		REMARKS.
Febru'ry	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M	Sunrise.	9 A. M	3 P. M.	9 P. M.	Daily Mean.	Sunrise	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer	
	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	30·146	30·185	29·961	29·921	8·6°	12·2°	24·8°	24·8°	8°	10°	24°	24°	16°	10	10	10	0	NW 1	NW 1	S 0	SE 0	0	0	0	0	6°	22°	9 P. M.			12°	24°	
2	30·010	30·016	30·028	30·004	28·4	29·3	30·2	30·2	28	29	31	30	29·5	0	0	0	0	NE 0	NE 1	NE 0	NE 0	0	0	0	0	27	30			·30	28	31	Snow, ended during the night, measured in substance on the ground three inches.
3	30·059	30·059	30·099	30·079	24·8	26·6	30·2	19·4	24	25	31	19	27·5	10	10	10	10	N 0	N 0	N 0	N 0	0	0	0	0	23	29				20	31	
4	30·107	30·057	30·067	30·079	15·8	19·4	28·4	17·6	16	19	29	18	22·5	10	10	10	10	NE 0	NE 0	NE 1	NE 1	0	0	0	0	15	28				14	29	
5	30·079	30·057	30·079	30·118	25·7	27·5	29·3	27·5	24	28	30	28	27	0	0	0	0	NE 0	NE 1	NE 0	NE 2	0	0	0	0	23	29	7½ A.M.		·02	28	30	Snow and sleet in course of day to 5 P. M.
6	29·988	29·988	30·000	30·000	30·2	33·8	35·6	32	30	32	34	30	32	0	0	0	0	NE 1	NE 0	NE 0	NE 0	NE 1	0	0	NE 1	28	33	6½ P.M.		·20	30	31	Rain, ended during the night, large halo around the moon.
7	29·981	29·949	29·951	29·988	25·7	32	41	30·2	25	30	40	30	32·5	10	10	10	10	W 1	W 0	SE 0	SE 0	0	0	0	0	23	38				22	40	
8	29·685	29·713	29·725	29·725	30·2	30·2	30·2	26·6	30	30	30	26	30	0	0	10	0	NE 4	N 1	N 3	NW 3	0	0	0	0	26	26		2 P. M.	·03	22	30	Snow began in the course of the night before
9	29·713	29·713	29·685	29·725	19·4	24·8	21·8	12·2	20	21	24	12	22	10	10	6	10	W 3	NW 2	NW 4	NW 0	0	0	NW 2	0	19	20				12	21	
10	29·764	29·882	30·217	30·217	15·8	15·8	21·8	20·3	15	16	21	20	19·5	0	3	0	0	W 0	W 2	W 4	NW 0	0	W 2	W 4	0	14	21					21	No deposit could be perceived: Ther. att'd stood at + 12.
11	29·961	29·921	30·170	30·107	23	25·7	31·7	20·3	22	24	31	20	23	10	10	10	10	N 1	N 0	N 0	N 0	0	0	0	0	20	30				18	34	
12	30·079	30·225	30·197	30·236	21·2	25·7	34·7	27·5	22	24	34	28	28	0	10	10	10	NE 0	NE 1	NE 0	SE 0	0	0	0	0	20	30				25	34	
13	30·276	30·251	30·256	30·225	24·8	32	38·3	31·1	24	31	38	32	31	10	4	4	10	S 1	SW 1	SE 4	SE 2	0	0	SE 2	0	23	35				32	38	
14	30·185	30·185	30·185	30·185	29·3	35·6	38·3	26·6	29	35	39	26	31	10	8	0	0	W 1	W 1	NW 1	NW 1	0	W 2	0	0	26	34				21	39	
15	30·185	30·217	30·173	30·107	24·8	27·5	36·5	36·5	26	23	36	36	31	0	0	0	0	N 1	NE 1	E 2	SE 0	0	0	0	0	24	32	7 P. M.		·15	39	36	Rain, ended in the course of the night.
16	29·961	29·961	29·911	29·882	42·8	41·6	46·4	48·2	32	35	40	35	36	10	8	0	0	SW 1	NW 1	NW 2	NW 0	0	NW 3	0	0	30	35				31	40	Barometer removed from out-door exposure into the Hospital (altitude about twenty-two feet above low water): room 12 by 12, one window, south-west exposure, without fire.
17	29·890	29·891	29·882	29·882	46·4	46·4	47·3	49·1	30	36	38	30	31	4	6	8	0	SW 2	SW 2	SW 2	NW 3	SW 1	SW 1	0	0	30	31				29	38	
18	29·929	30·095	30·107	30·126	37·4	38·3	45·5	43·7	16	16	27	25	21·5	10	10	6	10	NW 5	NW 4	NW 6	NW 1	0	0	NW 2	0	11	21				14	27	
19	30·131	30·146	30·185	30·162	41	43·7	49·1	50·9	26	34	41	34	33·5	10	10	10	10	SW 2	W 1	W 2	W 1	0	0	0	0	24	36				27	41	
20	30·138	30·138	30·087	30·067	46·4	46·4	51·8	51·8	31	34	48	39	39·5	10	10	10	10	SW 1	SW 1	SW 0	W 0	0	0	0	0	30	42				32	48	
21	29·929	29·929	29·898	30·666	49·1	48·2	46·4	39·2	34	36	45	37	31·5	9	7	0	0	W 1	W 2	W 1	W 0	0	0	0	0	31·5	35				32	45	
22	29·890	29·898	29·898	30·677	42·8	39·2	45·5	37·4	32	38	45	38	38·5	8	9	10	10	W 2	W 3	W 3	W 0	W 3	W 3	0	0	32	40				33	45	
21	29·890	29·898	29·811	29·815	43·7	44·6	50	38·3	33	35	45	37	39	6	6	2	0	W 1	W 1	W 1	NE 4	0	0	W 1	0	32	42				35	45	
24	29·815	29·847	29·886	29·949	50	50	50	42·8	31	31	30	24	30·5	0	0	10	10	NE 5	NE 5	NE 3	NE 2	NE 4	NE 4	0	0	30	26		8 A. M.	·03	20	30	Snow began in the course of the night before.
25	30·182	30·122	30·185	30·158	40·1	41·9	47·3	44·6	17	18·5	32	26	21·5	10	10	10	10	NE 2	NE 2	NE 2	NE 1	0	0	0	0	16	26				16	32	
26	30·185	30·225	30·213	30·185	41·9	45·5	52·7	41·6	22	25	40	32	31	10	10	10	10	W 0	W 1	W 1	W 1	0	0	0	0	19	36				25	40	Large halo around the moon.
27	30·000	30·004	29·921	29·921	44·6	46·4	47·3	44·6	32	34	37	33	34·5	0	0	0	2	NW 0	NW 0	NW 0	NE 4	0	0	NW 2	NE 3	30	36	5 A. M.	7 A. M.		34	37	Quantity of rain inappreciable.
28	29·949	29·888	30·051	30·131	48·2	51·8	56·3	50	34	31	38	36	36	0	10	10	10	NE 4	NE 4	NE 4	NE 3	NE 3	0	0	0	31	34				20	38	
29	30·150	30·158	30·158	30·158	46·4	51·8	48·2	44·6	33	38	45	39	39	10	10	4	10	W 2	W 1	W 1	W 1	0	0	W 1	0	30	40				35	45	
Monthly Mean.	30·008	30·022	30·036	30·086	33·40	35·75	40·20	31·92	25·72	28·61	35·50	29·10	30·60	6·10	6·60	6·00	5·60									21·02	32·00			1.03	25·00	35·59	

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude, 40° 42′ North. Longitude, 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1841.	BAROMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN			HYGROMETER, at 3 P.M.		REMARKS.
March	Sunrise.	9 A. M	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise	9 A. M.	3 P. M.	9 P. M.	Sunrise	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended.	Quantity	Hygrometer.	Thermometer.	
	Fahr	Fahr	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	30·114	30·122	30·099	30·039	47·4	51·8	54·5	46·4	37°	43°	49°	39°	43°	4	0	4	10	W 0	W 0	W 0	W 0	0	0	0	0	34°	41°				40°	49°	Slight fog in the morning to 8½ A. M. Rain ended in the course of the night.
2	29·914	29·909	29·902	29·866	48·2	51·8	53·6	50·0	36	39	44	40	40	0	0	0	0	NE 0	E 1	E 0	E 0	0	0	0	0	30	41	9 P.M.			36	41	
3	29·800	29·891	29·870	29·831	48·2	50·9	51·8	53·6	38	33	41	38	41	0	0	6	4	N 1	N 1	N 0	NE 0	0	N 1	0	0	33	40			·06	33	41	In a rain-gauge situated in the middle of the hospital yard, four feet from the ground, and about 40 feet from any building; ·04 in the gauge on the hospital roof. Began and ended in the course of the night: 18 in the gauge on the roof, 35 feet high.
4	29·811	29·827	29·870	29·911	48·2	48·2	40·1	41·6	36	35	34	25	35	0	2	8	0	NE 3	NE 1	NW 6	NW 2	0	0	NW 3	0	31	30			·23	21	34	
5	30·185	30·185	30·244	30·244	39·2	39·2	48·2	46·1	21	23	35	31	28	10	6	5	10	NW 3	NW 3	NW 2	NW 1	0	0	0	0	19	32				18	35	
6	30·166	30·256	30·118	30·141	43·7	46·4	53·6	46·4	27	31	45	31	36	0	10	10	10	NW 2	NW 1	W 1	W 2	0	0	0	0	22	40				16	45	
7	30·500	30·510	30·528	30·455	44·6	46·4	50·0	48·2	32	37	43	36	37·5	10	10	10	10	SW 2	SW 1	S 3	S 2	0	0	0	0	28	40				14	43	
8	30·3 2	30·342	30·205	30·099	44·6	46·4	48·2	51·8	38	42	45	41	41·5	0	0	0	0	SE 1	SE 1	SE 1	SE 1	0	0	0	0	31	42	9 A. M.	5 P. M.	·11	35	45	
9	29·931	29·931	29·920	29·929	53·6	54·5	51·5	51·8	48	50	48	40	48	5	5	0	0	SW 0	W 0	NE 1	NW 0	SW 2	W 1	0	0	45	44			·02	18	48	In the course of the night, slight fog in the morning to 8 A. M.
10	29·947	29·937	29·969	29·969	41·6	47·3	55·4	50·0	33	35	46	40	39·5	10	10	10	0	NW 1	N 2	NW 0	NW 0	0	0	0	0	30	41				16	46	
11	30·059	30·166	30·166	30·1 6	41·6	51·8	57·2	46·4	33	41	52	41	42·5	10	10	10	10	NW 0	W 0	SW 0	SW 0	0	0	0	0	30	47				14	52	
12	30·177	30·162	30·162	30·055	48·2	49·1	52·7	41·6	38	44	46	42	42	0	4	5	0	SE 1	SE 3	SE 3	SE 3	0	SE 4	SE 4	0	34	40	6 P. M.			19	46	
13	29·955	29·965	29·965	29·977	53·6	53·6	51·8	50·0	47	47	49	46	48	0	0	5	0	SW 3	SW 2	W 1	NW 0	0	0	0	0	45	46	5 P. M.	7 P. M.	·74	40	49	Gauge on the roof 60.
14	29·898	29·929	29·904	30·024	51·8	55·4	66·2	55·1	42	46	51	41	45·5	10	10	0	10	NE 1	NE 1	NE 1	NE 1	0	0	0	0	39	48				40	51	
15	30·016	30·016	30·011	29·955	48·2	48·2	50·0	48·2	37	39	40	36	38·5	0	0	0	0	NE 1	NE 0	NE 2	NW 1	0	0	0	0	34	36	1 P. M.			28	40	
16	29·886	29·839	29·780	29·764	46·4	48·2	48·2	48·2	36	38	40	36	38	0	0	0	0	NE 1	NE 1	NE 1	NE 1	0	0	0	0	35	37	10½ A.M.	9½ P.M.	1·80	31	40	Gauge on the roof 58.
17	29·563	29·551	29·536	29·551	48·2	50·0	55·4	50·9	38	43	50	44	44	0	5	6	0	NE 0	NW 1	NW 0	NW 0	0	NW 3	NW 2	0	36	46				30	50	Gauge on the roof 75.
18	29·563	29·463	29·551	29·583	46·4	47·3	46·4	44·6	36	36	33	32	34·5	10	10	0	0	NW 2	SW 3	W 6	NW 6	0	0	0	0	33	30	2 P. M.	5 P. M.	·09	30	33	Rain and snow, with passing showers, until 5 P. M.; gauge on the roof 102.
19	29·878	29·911	29·957	29·919	40·1	41·0	46·4	41·0	25	31	31	32	29·5	5	6	6	0	NW 4	NW 3	NW 3	NW 2	NW 4	NW 4	NW 5	0	23	30				30	31	
20	29·9 9	29·918	29·709	29·710	42·8	48·2	50·0	48·2	35	41	41	41	39·5	10	10	0	0	SW 2	SW 4	SE 0	NE 2	0	0	0	0	31	40	2½ P. M.	3½ P.M.	·03	36	44	Squall began at 2 P. M., ended 2½ P. M. Bar. 29·732, Ther. attached 48.
21	29·744	29·721	29·692	29·732	43·7	43·7	46·4	42·8	34	31	35	32	34·5	6	0	3	0	NE 0	N 4	NE 2	NE 5	NE 2	0	NE 2	0	28	32				30	35	
22	29·772	29·780	29·780	29·732	42·8	43·7	48·2	46·4	30	32	46	38	38	8	8	10	0	N 0	N 1	NE 0	NE 0	N 2	N 2	0	0	27	42				21	46	
23	29·772	29·7 0	29·792	29·780	44·6	43·7	47·3	41·6	29	31	41	34	35	4	6	10	10	SW 1	NE 1	NW 0	NW 0	SW 2	NE 2	0	0	26	38				22	41	
24	29·819	29·839	29·866	29·8 9	41·0	42·8	52·7	46·4	30	37	48	42	39	10	10	10	0	NW 2	NW 1	W 1	W 0	0	0	0	0	27	41				18	48	
25	29·811	29·844	29·701	29·848	46·4	49·1	53·6	46·4	38	41	48	40	43	5	10	6	0	SW 2	W 1	W 2	W 0	SW 3	0	W 2	0	31	45				19	48	
26	29·929	29·898	29·865	29·858	50·0	51·8	52·7	48·2	40	52	48	48	44	0	6	0	0	S 2	SW 0	SW 1	SW 1	0	0	0	0	36	41	1 P. M.	5½ P.M.	·05	40	48	
27	29·871	30·0 8	30·0 1	30·055	46·4	50·0	53·6	55·4	46	47	48	38	47	0	0	0	0	SE 1	SW 1	SW 3	SW 2	0	0	0	0	42	45				32	48	
28	29·969	29·969	29·960	29·854	50·0	47·3	48·2	48·2	36	37	40	37	38	0	0	0	0	SE 0	SE 0	NE 0	NE 0	0	0	0	0	32	36		6 A.M.	·17	30	40	Slight spray till noon; foggy all day.
29	29·854	29·8 9	29·910	29·957	50·0	50·0	57·2	48·2	38	49	54	36	46	4	10	10	0	W 0	N 0	NE 0	SE 5	0	0	0	0	31	50	9. P M.		·03	21	54	Rain during the day and night.
30	29·7 9	29·799	29·811	29·839	50·0	48·2	48·2	48·2	36	38	36	34	35	0	0	0	0	NE 2	NE 2	NE 1	NE 3	0	0	0	0	31	33		7 A.M.	·65	30	36	Rain at intervals during the day.
31	29·939	29·961	30·067	30·281	37·4	39·2	41·6	41·0	24	23	30	25	27	6	10	10	10	N 3	N 4	NE 3	N 0	N 3	0	0	0	21	28	6½ P M		·02 ·50	20	30	Rain ended during the night before; thunder and lightning at 6½ P.M. Rain and hail; hail frozen solid in the gauge, end at 12 P. M. at night.
Monthly Mean	29·939	29·951	29·950	29·938	46·25	49·20	51·48	47·90	35·26	39·00	43·42	37·48	39·35	4·00	5·00	4·61	2·70									32·0	39·70			4·50	27·0	43·42	

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